



Sri Lanka Medical Nutrition Association

**PROCEEDINGS OF
8th Annual Academic Sessions 2023**



Blend Medical Nutrition Therapy into Clinical Care

25th & 26th August 2023 - Waters Edge

Proceedings of
8th Clinical Nutrition Annual Academic Sessions 2023

Sri Lanka Medical Nutrition Association

Waters Edge, Battaramulla

25th & 26th August 2023

“Blend Medical Nutrition Therapy into Clinical Care”

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8TH CLINICAL NUTRITION ANNUAL ACADEMIC SESSIONS 2023
SRI LANKA MEDICAL NUTRITION ASSOCIATION

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SRI LANKA MEDICAL NUTRITION ASSOCIATION

COUNCIL 2023 - 2024



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MESSAGE FROM THE CHIEF GUEST

Hon. Dr. Keheliya Rambukwella,
Health Minister



It is a great honour and privilege for me to be the Chief Guest at the inauguration of the 8th Clinical Nutrition Academic Sessions of the SLMNA. In recent times, the importance of nutrition has taken centre stage, particularly as we navigate through the challenges posed by economic crises. The link between nutrition and health is undeniable.

Sri Lanka has made remarkable strides in improving health indicators over the years. A significant portion of this success can be attributed to the understanding of proper nutrition and its impact on public health.

Extending that focus to the clinical sector helps to improve the health of the sick and efforts taken by SLMNA in promoting awareness and disseminating knowledge among the involved is commendable. Organizing such annual sessions not only provide knowledge but also give the opportunity for all with a common interest to share their experiences and knowledge. Your commitment to research, education, and advocacy has undoubtedly contributed to the improvement in health indicators across our nation.

I am particularly pleased to learn that SLMNA has extended associate membership to allied health staff. Health care requires multisector involvement and Collaborative efforts involving a wide range of healthcare professionals will always yield better results. The inclusion of allied health staff in your association reflects your commitment to a holistic and interdisciplinary approach to healthcare.

Furthermore, the international collaborations initiated by SLMNA showcase our nation and dedication to learning from global best practices. Capacity building and sharing knowledge and experiences always benefit Sri Lanka.

A special commendation goes to Professor Pujitha Wickramasinghe, whose leadership has guided the SLMNA with vision and passion. Under your guidance, the association has achieved commendable milestones and continues to inspire healthcare professionals across the nation.

I extend my best wishes for the success of the Academic Sessions of the SLMNA. May these sessions foster deep insights, fruitful discussions, and meaningful collaborations that further enrich the field of clinical nutrition in Sri Lanka. Together, let us continue to prioritize the health and well-being of our nation through a steadfast commitment to understanding and promoting proper nutrition.

MESSAGE FROM THE PRESIDENT OF SRI LANKA MEDICAL NUTRITION ASSOCIATION

Prof. Pujitha Wickramasinghe

MBBS,DCH,MD, PhD, FSLCPaed, FSLCNP

Senior Professor in Paediatrics



It gives me great pleasure and it's an honour to host you all at the 8th Clinical Nutrition Academic Sessions of the SLMNA as the second president of this society.

Nutrition has evolved from the provision of nutrients for growth and body functions to therapy. Over the last few decades, the importance of nutrients as a mode of therapy as well as use of advanced technology in production and delivery of nutrients required it to branch out from clinical medicine, to harness its optimum benefits. This has helped to achieve a better investment in return, reducing hospital mortality and morbidity with better clinical outcomes.

Not very many countries in the world have recognized the important role played by a clinician in nutrition management in day to day patient care.

Sri Lanka is one of the few countries that developed clinical nutrition into a post graduate qualification both as an MSc and MD levels. This led to the development of the field of parenteral and enteral nutrition in Sri Lanka and SLMNA was born to facilitate the profession and become the national Parenteral and Enteral Nutrition Society of the country. Over the last eight years, it has grown in its membership as well as portfolio and has been able to have close ties with North American (ASPEN), European (ESPEN) and Asian (PENSA) PEN societies providing a lot of academic and training benefits to its membership. The hope of it is that SLMNA hosting PENSA 2027 in Colombo, Sri Lanka. Apart from it, SLMNA has been able to closely work with international experts in the field to transfer knowledge and build capacity.

SLMNA has been able to contribute to continued professional development. Monthly clinical meetings rotating at main teaching hospitals were held in a hybrid manner, enabling all interested groups around the country to be part of it. Further, having bimonthly webinars with international experts helped the local fraternity to keep abreast with the updated knowledge.

Stakeholders in delivering nutrition are broad, and SLMNA is working in a bid to expand its membership to encompass all involved in the field of medical nutrition in the form of personal as well as, both local and international organizations. SLMNA will be working with the American Society of Nutrition providing more academic and training opportunities to the local fraternity.

SLMNA is a young association with a young membership, and it had been a pleasure and a privilege to work with them and guide them. My duty had been to unleash its potential and cultivate professionalism in an already competent and energetic membership. I am amazed with their passion for the field and capacity they have, and it had been a pleasure to work with them over the past few months.

This year's annual scientific session with the theme of 'blend nutrition therapy into clinical care' is the culmination of all those efforts. We have arranged a series of symposia to cover some important clinical areas and provided the opportunity to present the research output of the membership. I take this opportunity to thank all those who are actively participating in this event and wish to have a fruitful academic session.

MESSAGE FROM THE SECRETARY OF SRI LANKA MEDICAL NUTRITION ASSOCIATION

Dr.Nalinda Herath

MBBS, MSc, MD

Consultant Nutrition Physician



A pivotal moment arrived in 2015 with the establishment of the Sri Lanka Medical Nutrition Association (SLMNA), an institution I hold the esteemed distinction of being a founding member of.

Over the past eight years, we have orchestrated the remarkable expansion of nutrition-centric endeavours, leaving an indelible mark on both curative and preventative healthcare landscapes nationwide. Serving as Sri Lanka's representative PEN society for the European Society of Enteral and Parenteral Nutrition, SLMNA occupies a prestigious position.

As the helm of SLMNA transitioned to new leadership in the dawn of 2023, a fresh vision embarked upon a journey of realization. As the incumbent 8th Secretary of SLMNA, I extend my heartfelt wishes for the organization's continued triumphs and accomplishments. May success and prosperity shine on the road.

INAUGURATION - PROGRAMME

5.45 p.m	Guests to take their seats
6.00 p.m	Arrival of the Chief Guest
6.05 p.m	Introduction of Council Members to the Chief Guest
	Ceremonial Procession
6.15 p.m	National Anthem
6.20 p.m	Ceremonial Lighting of the Oil Lamp
6.25 p.m	Induction of the President
6.35 p.m	Welcome and Presidential Address
6.40 p.m	Prof. Pujitha Wickramasinghe
	President, SLMNA
6.55 p.m	Address by the Chief Guest, Hon Dr. Keheliya Rambukwella,
	Minister of Health
7.05 p.m	Address by the Keynote Speaker
	"Mediterranean diet: Benefits don't come from a pillbox"
	Prof. Stephan Schneidr
	Professor of Nutrition, Gastroenterologist
	Nice University Hospital
7.35 p.m	Presentation of Awards
7.40 p.m	Vote of Thanks
	Dr Nalinda Herath
	Secretary, SLMNA
8.00 p.m	Entertainments
8.05 p.m	Procession leaves the hall
8.10 p.m	Dinner

Address by the Keynote Speaker

Prof. Stéphane M. Schneider, MD, PhD, FEBGH



Gastroenterologist and Professor of Nutrition in Nice, Stéphane Schneider heads the nutritional support unit of the Nice University Hospital and the Regional Centre for Home Parenteral Nutrition. He is vice president of the French-speaking Society of Clinical Nutrition and Metabolism and treasurer of the European Society of Clinical Nutrition and Metabolism (ESPEN). His research interests are intestinal failure, the effects of ageing and disease on nutritional status, but also microbiota and intestinal diseases such as Crohn's disease or celiac disease. He is the author of 277 original articles, reviews, clinical cases, and book chapters and has been a guest lecturer more than 400 times.

Mediterranean diet- the benefits don't come from a pillbox

At a time when people are often getting excited by the so-called miracle effects of a specific nutrient, the Mediterranean diet (and/or way of life) has become the most studied health-promoting diet. It mostly consists of fish, monounsaturated fats from olive oil, fruits, vegetables, whole grains, legumes/nuts, and moderate alcohol consumption.

Consuming this diet rich in minimally processed plant foods has been associated with a reduced risk of developing chronic diseases and increased life expectancy. Data from several randomized trials have demonstrated a beneficial effect in the primary and secondary prevention of cardiovascular disease, type 2 diabetes, atrial fibrillation, and breast cancer.

The exact mechanisms of action are not known. However, accumulating evidence indicates that the five most important adaptations induced by the Mediterranean dietary pattern are: (a) lipid-lowering effect, (b) protection against oxidative stress, inflammation, and platelet aggregation, (c) modification of hormones and growth factors involved in the pathogenesis of cancer, (d) inhibition of nutrient sensing pathways by specific amino acid restriction, and (e) gut microbiota-mediated production of metabolites influencing metabolic health. More studies are of course required to understand the relative importance of each adaptation as well as the effects of single modifications of nutrients typical of the Mediterranean diet.

SYMPOSIUM 01

Medical Nutrition Therapy in Paediatrics

Chairpersons - Prof. Pujitha Wickramasinghe / Dr. Pearl Mallawaarachchi

8.00 - 8.20 am Optimizing Growth through Nutritional Interventions

Prof. Heshan Jayaweera

8.20 - 8.40 am Nutrition Therapy in Acute Malnutrition: Practical Application

Dr. Manoji Gamage

8.40 - 9.00 am Q & A

SYMPOSIUM 02

Nutritional Applications in Inflammatory Bowel Diseases

Chairpersons - Prof. Ishan De Zoysa / Prof. Ranil Jayawardena

9.00 - 09.20 am Nutritional Status in Inflammatory Bowel Diseases

Prof. Stephane Schneider

9.20 - 09.40 am Dietary Interventions in Inflammatory Bowel Diseases

Dr. Nilesh Fernandopulle

09.40 - 10.00 am Q & A

10.00 - 10.30 am Tea Break

SYMPOSIUM 03

Liver disease - Place of nutrition therapy

Chairpersons - Dr. Ruwan Dissanayake / Dr. Sajitha Mallawarachchi

10.30 - 10.50 am Diet in Liver Disease

Prof. Madunil Niriella

10.50 - 11.10 am Challenges in Nutrition Therapy in Liver Transplantation

Dr. Shalika Kurukulaarachchi

11.10 - 11.30 am Q & A

11.30 - 1.00 pm Poster Presentation & Lunch

1.00 - 3.00 pm Oral presentation

SYMPOSIUM 04

The essence of comprehensive nutritional care - Nutrition and Hydration in Palliation

Chairpersons - Dr. Gowri Samarasekara / Dr. Thimathi Wickramasekara

3.00 - 3.20 pm Spectrum of Palliative Care

Dr. Thushari Hapuarachchi

3.20 - 3.40 pm Blending Nutrition and Hydration into Palliative Care

Dr. Jayani T. Jayaweera

3.40 - 4.00 pm Q & A

4.00 - 4.30 pm Awards and Closing Remarks

4.30 pm Evening Tea

Symposium 01
Medical Nutrition Therapy in Paediatrics
Chairpersons - Dr. Ruwan Dissanayake /
Dr. Sajitha Mallawarachchi

Prof. Heshan Jayaweera - MBBS, DCH, MD (Paed), FRCPCH



Prof. Heshan Jayaweera is a Board-Certified Specialist in General Paediatrics and is currently attached to the Department of Paediatrics, University of Peradeniya. Prof. Heshan Jayaweera serves as an Honorary Consultant Paediatrician at the Teaching Hospital Peradeniya. His areas of interest include childhood nutrition, Paediatric gastroenterology, and nephrology.

Optimizing Growth through Nutritional Interventions

Growth is a dynamic process in all living beings. Appropriate growth is considered an indicator of well-being. Growth during infancy is mainly dependent on nutrition and is later contributed to by hormones. Inadequate nutrition and chronic illness lead to poor weight gain and failure to thrive. Identifying appropriate strategies to optimize nutrition in affected patients is vital as poor nutrition and illness lead to a vicious cycle. The presentation aims to discuss an overview of outpatient and inward interventions that would support better growth in those with poor growth and optimize their long-term outcomes.

Dr. Manoji Gamage MBBS, MSc , MD (Clinical Nutrition)



Dr. Manoji Gamage is a consultant Nutrition Physician at the Lady Ridgeway Hospital for Children. She has had specialized training in paediatric nutrition from the Birmingham Children’s Hospital United Kingdom. She is the honorary treasurer of the Sri Lanka College of Nutrition Physicians. Dr. Gamage has Co-authored the nutrition chapter of the Conscience Textbook of Paediatric and has many publications to her name.

As one of the first board-certified nutrition Specialists in the country, she has been involved in the preparation of national guidelines and implementation of clinical nutrition therapy in the hospital setting.

Nutrition therapy in acute malnutrition: Practical application

Acute malnutrition during childhood can potentially create uncorrectable damage to human productivity. The prevalence of malnutrition among children is rising in vulnerable populations due to economic crisis, disease, and conflicts.

Timely diagnosis and close follow-up are needed to achieve appropriate weight gain and prevent the recurrence of acute malnutrition. It is important to consider the child’s preferences, caretaker habits, and socioeconomic circumstances for optimum management. Delivery of appropriate macro and micronutrients in optimum quantity and quality is of paramount importance in the management of acute malnutrition.

National and international recommendations based on good practice are useful resources in the management of acute malnutrition. Each community should be geared to adapt recommendations to suit individual feeding and food preparation cultures.

SYMPOSIUM 02

Nutritional Applications in Inflammatory Bowel Diseases

Chairpersons - Prof. Ishan De Zoysa / Prof. Ranil Jayawardene

Prof. Stéphane M. Schneider, MD, PhD, FEBGH



Gastroenterologist and Professor of Nutrition in Nice, Stéphane Schneider heads the nutritional support unit of the Nice University Hospital and the Regional Centre for Home Parenteral Nutrition. He is vice president of the French-speaking Society of Clinical Nutrition and Metabolism and treasurer of the European Society of Clinical Nutrition and Metabolism (ESPEN). His research interests are intestinal failure, the effects of ageing and disease on nutritional status, but also microbiota and intestinal diseases such as Crohn's disease or celiac disease. He is the author of 277 original articles, reviews, clinical cases, and book chapters and has been a guest lecturer more than 400 times.

Nutritional Status in Inflammatory Bowel Diseases

Inflammatory bowel disease (IBD), which includes conditions like Crohn's disease and ulcerative colitis, can significantly impact the nutritional status of affected individuals. Chronic inflammation in the gastrointestinal tract leads to various complications that affect nutrient absorption, metabolism, and utilization. As a result, IBD patients often experience malnutrition and nutrient deficiencies.

The nutritional status of IBD patients is influenced by several factors, including decreased appetite, malabsorption of nutrients, increased nutrient losses due to diarrhoea or intestinal bleeding, and altered metabolism. These factors can lead to deficiencies in important nutrients such as vitamins (e.g., B12, D, and folate), minerals (e.g., iron and calcium), and macronutrients. Overweight and obesity are frequent, but they are not exclusive to sarcopenia or overt malnutrition. Malnutrition in IBD can have adverse effects on patients' overall health, disease management, and quality of life. It can exacerbate the symptoms of IBD, impair immune function, and delay wound healing. Furthermore, malnutrition can lead to weight loss, muscle wasting, fatigue, and decreased physical and cognitive function. Managing the nutritional status of IBD patients requires a multidisciplinary approach involving healthcare professionals, including gastroenterologists, dietitians, and nutritionists.

Dr. Nilesh Fernandopulle MBBS, MD, FRCP, Specialty Certificate in Gastroenterology



Dr. Nilesh Fernandopulle currently works as Consultant Gastroenterologist and Senior Lecturer, at the University Surgical Unit, NHSL. Previously he has worked as a Consultant Gastroenterologist, at TH Jaffna and Consultant Gastroenterologist, at Addenbrookes Hospital, Cambridge. His special interests are Interventional Endoscopy – ERCP, EUS, and 3rd Space endoscopy (POEM, EMR, ESD, etc) and Inflammatory bowel diseases and pancreatitis. He has over 25 Publications and over 50 Abstracts in local and international conferences and Co-authored two books in Gastroenterology

Dietary Interventions in IBD

Diet is intimately linked to the gastrointestinal tract and has been found to have potent effects on intestinal immune homeostasis. Inflammatory bowel disease (IBD) is characterized by chronic inflammation of the GI tract. The therapeutic implications of diet in patients with IBD have received significant attention in recent years. Epidemiological studies suggest that ultra-processed foods, food additives, and emulsifiers are associated with a higher incidence of IBD. Exclusion and elimination diets are associated with improved symptoms in patients with IBD, but no effects on objective markers of inflammation. Specific dietary interventions (e.g., Mediterranean, specific carbohydrate, high fibre, ketogenic, anti-inflammatory diets) have been shown to reduce symptoms, improve inflammatory biomarkers, and quality of life metrics to varying degrees. To date, there is no robust evidence that any dietary intervention alone may replace standard therapies in patients with IBD. However, diet may play an adjunct role to induce or maintain clinical remission with standard IBD therapies.

SYMPOSIUM 03

Liver disease - Place of nutrition therapy

Chairpersons - Dr. RuwanDissanayake / Dr. SajithaMallawarachchi

Prof. Madunil Niriella MBBS, MD, MRCP, FRCP, FCCP, AGAF



Prof. Madunil A Niriella is a Professor in Gastroenterology at the Faculty of Medicine, University of Kelaniya, Ragama, and an Honorary Consultant Gastroenterologist at Colombo North Teaching Hospital, Ragama, Sri Lanka. He is also the lead Hepatologist at the Colombo North Center for Liver Disease (CNCLD), Ragama, Sri Lanka. He is a board-certified trainer in Gastroenterology and a long-term member of the speciality board of study in Gastroenterology Post-graduate Institute of Medicine, University of Colombo. He is also the President-elect of the Sri Lanka Gastroenterology Society (SLSG). He has presented over 150 research abstracts at international scientific gatherings such as DDW and UEGW and authored over 75 papers on the above subjects in high-impact, indexed peer-reviewed journals. He has also won many leading awards related to the research presented in his field of interest nationally and internationally.

Liver disease - the place of nutrition therapy

Liver and pancreatic diseases can have a significant impact on nutritional status. Malnutrition is common in these patients, and it can have a negative effect on their quality of life, clinical outcomes, and survival. The goal of nutritional therapy in liver & pancreatic disease is to improve nutritional status and prevent complications. This can be done through a variety of approaches, including Nutritional counselling: Patients should receive nutritional counselling from a registered dietitian. The dietitian can help the patient develop a personalized diet plan that meets their individual needs. Nutritional supplements: In some cases, patients may need to take dietary supplements to meet their daily requirements. Enteral nutrition: In severe cases, patients may need to receive enteral nutrition therapy is an integral part of the management of liver and pancreatic disease. By providing adequate nutrition, healthcare providers can improve the quality of life, clinical outcomes, and survival of these patients

Dr. Shalika Kurukulaarachchi, MBBS, MSc, MD (Clinical Nutrition)



Dr. Shalika Kurukulaarachchi is the Consultant Nutrition Physician at North Colombo Teaching Hospital and the visiting Nutrition Physician at the National Center for Children with Disabilities, Faculty of Medicine, University of Kelaniya.

She obtained MBBS degree in 2001 from the Faculty of Medicine, University of Kelaniya. She has served in different parts of the country including Nuwara Eliya, Peradeniya before entering the field of Clinical Nutrition.

She obtained MSc in Human Nutrition in the year 2013 and MD in Clinical Nutrition in the year 2019 at the Post Graduate Institute of Medicine, University of Colombo. She is a Fellow of the Intestinal Failure and Gastroenterology Nutrition Unit of the Norfolk and Norwich University Hospital, United Kingdom

Challenges in Nutrition Therapy in Liver Transplantation

Protein-energy malnutrition and sarcopenia are common in patients with end-stage liver disease and patients listed for liver transplantation. Pre-operative malnutrition leads to higher rates of complications and poor graft survival outcomes. Inadequate nutrition intake was seen due to many reasons including, loss of appetite due to anorexia, depression, medication side effects, satiety caused by less gastrointestinal peristalsis, and restrictive gastric expansion due to large-volume ascites.

Nutritional assessment in patients awaiting liver transplantation is challenging, new improved tools can be promising and important in nutritional management throughout the stages of pre and immediate post-liver transplantation and long-term follow-up.

Early nutritional interventions in replenishing nutrient deficits have shown remarkable benefits. After liver transplantation, during the long-term nutritional follow up the risk of developing sarcopenic obesity and metabolic syndrome should be taken into account and nutritional rehabilitation should aim for an earlier and faster recovery of total body protein and muscle function.

SYMPOSIUM 04

The essence of comprehensive nutritional care - Nutrition and Hydration in Palliation
Chairpersons - Dr. Gowri Samarasekara / Dr. Thimathi Wickramasekara

Dr. Thushari D. Hapuarachchi MBBS,MD (Clinical Oncology)



Dr. Thushari D. Hapuarachchi presently works as a Consultant Oncologist with a special interest in Paediatric Oncology at National Cancer Institute Sri Lanka. She has clinical experience in dealing with both adult and paediatric patients with a wide spectrum of malignancies for more than 15 years. She is the secretary of the Specialty Board of Palliative Medicine, Post Graduate Institute of Medicine , University of Colombo, and Master trainer of Palliative Care Capacity Enhancement Programme of Sri Lanka.

She is EPEC master trainer in Paediatric Palliative Care and a Council Member of the Asia Pacific Hospice Palliative Care Network.

Spectrum of Palliative Care

Palliative care is a multi-disciplinary speciality that provides holistic care to patients who are diagnosed with a life-limiting or life-threatening illness. The goal is to improve the patient's quality of life by alleviating the patient's physical, psychological, social, and spiritual sufferings. The beauty of palliative care is that it provides relief and offers compassionate care to the patient as well as the family or caregivers.

Palliative care affirms life and regards death as a normal process. It provides an added layer of support to the patients to live as actively as possible during their course of illness. Palliative care services need to be introduced early in the course of their life-limiting/life-threatening illness and the care will continue throughout and even after the death of the patient where the bereavement care is offered to the loved ones.

Building a positive relationship with patients and caregivers, proper assessment and management of patients' palliative needs, advanced care plan, end-of-life care, and terminal care which provides a dignified, peaceful death are essential components of palliative care. It is important for all healthcare professionals to receive education and training on palliative care which provides knowledge, skills, and attitude and adds the essence to their day-to-day practice.

Dr. Jayani Radika Tennakoon Jayaweera ,MBBS, MSc, MD (Clinical Nutrition)



Dr. Jayani Tennakoon Jayaweera is currently the Consultant Nutrition Physician at Apeksha Hospital, Maharagama. She obtained her MBBS degree in the year 2006 from the Faculty of Medical Sciences, University of Sri Jayewardenepura. She completed her MSc (Human Nutrition) in the year 2013 and MD (Clinical Nutrition) in 2019 at the Post Graduate Institute of Medicine, University of Colombo. She obtained foreign training at St. Mark's Hospital, London.

Dr. Tennakoon Jayaweera has been involved in nutrition-related audits, researches and has given her technical contribution to developing nutrition-related national guidelines by the Ministry of Health, Sri Lanka. She is the founder co-secretary of the Sri Lanka College of Nutrition Physicians.

Blending nutrition and hydration into palliative care

Nutrition and hydration in palliation is an essential component in comprehensive nutritional care. It is aimed to optimize the management of nutrition-related symptoms, thus improving the sense of well-being of the patient.

Nutrition intervention depends on the phase of palliation. Disease-focused palliation is aimed at prolonging survival (Phase I), Symptom-focused palliation is aimed at alleviation of symptoms (Phase 2), or End stage palliation/ Phase of dying (Phase 3).

Nutritional support should be considered appropriate in any patient whose suffering may be alleviated by nutritional supplementation. When appropriate, should be commenced via the oral route; if not possible, the enteral or parenteral route will be considered. During terminal hypometabolism, normal energy and substrates may even be excessive and induce metabolic distress. The nutritional therapy must not put the patient at any additional overall risk.

Multi-professional team decisions including patient and family members as early as possible will enable to provide the best individualised care for the patient in palliation.

ABSTRACTS OF ORAL PRESENTATIONS

OP 1 - Impact of COVID-19 on childhood nutrition in children below 5 years age group in Sri Lanka

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Introduction and Objective

During a pandemic like COVID-19, children are one of the most susceptible groups to nutrition-related complications. We assessed the impact of COVID-19 on under-5-year nutritional indicators in Sri Lanka.

Methods

Secondary data were collected from the Family Health Bureau and Annual Health Bulletins from 2015 to 2021. Percentages of children with underweight, wasting, stunting, and overweight for each year were analyzed and compared.

Results

Percentage of underweight children of this age group in 2015 was 15.6% and it gradually declined to 14.0% in 2019. The value further declined after 2019 to 2021 with percentages of 13.1% in 2020 and 12.2% in 2021. 12.2% of under 5-year children had wasting in 2015 and that value reached 9.9% in 2019. It followed the same declining trend after the COVID-19 pandemic and achieved 8.6% and 8.2% respectively in 2020 and 2021. Percentages of Stunting among this age group were 9.6%, 8.4%, 8.2%, and 7.4% in 2015, 2019, 2020, and 2021 respectively. Thus, the percentages of under 5-year children with underweight, wasting and stunting had been decreasing up to 2019 and it further declined even after the outbreak following the same trend. Moderate and severe wasting among the considered age group also followed the same trend. But the percentage of under 5-year-old children who are overweight was more or less static (Slowly declining) from 2015 to 2019 and shows a rising trend from 2019. In 2015 0.6% of under 5-year age group was categorized as overweight and in 2019 the value was the same. But it significantly increased to 0.8% in 2020 and 2021.

Conclusion

Despite the decline in food security and the socioeconomic crisis led by COVID-19, indicators of acute and chronic malnutrition and growth among children have not been affected much in Sri Lanka. The only indicator that has deviated from the previous trend is the percentage of overweight children. According to the literature, during the pandemic difficulty in approaching a balanced diet, lack of exercise, and increased screen time can be considered as the factors that led to this trend but further studies are needed to address the factors that affected our study's result. Therefore, this study concludes that COVID-19 has not significantly affected acute and chronic malnutrition of children under 5 years whereas it has a significant influence on overweight among the same age group.

Keywords: COVID-19, Acute Malnutrition, Chronic Malnutrition, Overweight

OP 2 - Clinical audit on screening practices of newly onset Diabetes after transplantation in a nephrology clinic at the National Hospital of Sri Lanka

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Introduction and Objectives

Newly Onset Diabetes After Transplantation (NODAT) is a prevalent condition ranging from 2% - 53% following kidney transplantation (KT), with significant implications for cardiovascular disease (CVD) and chronic kidney disease (CKD) in solid organ transplantation. This clinical audit aimed to evaluate the screening practices for NODAT in the nephrology clinic at the National Hospital of Sri Lanka (NHSL).

Methods

The audit was conducted from March 27, 2023, to April 24, 2023, at NHSL nephrology clinic. A convenience sample of 20 patients attending follow-up after kidney transplantation was selected, excluding individuals with pretransplant undiagnosed diabetes and posttransplant hyperglycemia resolving at discharge. Data were obtained from patient clinic books. Kidney Disease Improving Global Outcome (KDIGO) clinical practice guideline for kidney transplant recipients (KTRs), 2009 was used as the audit standard.

Results

All the nondiabetic KTR patients (n=20,100%) underwent screening for diabetes using fasting plasma glucose as the screening tool as per the protocol. However, only 7 (35%) patients were followed up weekly following four weeks post-KT. Among the 17 patients who completed the 3 months post-KT period at the time of data collection, 7 (41%) were diagnosed with NODAT with irregular screening practices.

Conclusion

Although all nondiabetic KTRs were screened for NODAT using the recommended method in the beginning, the screening process lapsed in between failing to achieve the audit standards. Further improvements in screening practices are necessary to align with established guidelines.

Keywords

Kidney Transplantation, Newly Onset Diabetes After Transplantation (NODAT)

OP 3 - Audit on complementary feeding practices in babies attending the immunization clinic in Teaching Hospital, Peradeniya

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Introduction & Objective

Appropriate early childhood nutrition is crucial for children's optimal growth and development. This audit assesses the practices of the standards laid in the Infant and Young Child Feeding (IYCF) guideline by the clinic attendees.

Methods

Using an interviewer-administered questionnaire, data was collected retrospectively, commencing from May 1, 2022, for two months. The study covered all clinic-attending, developmentally normal 9–18-month-olds. Audit applied the 2007 IYCF guideline published by the Ministry of Health, Sri Lanka.

Results

The mean age of the total 41 babies was 12 months and the informant of the majority (40, 97.6%) were mothers.

Thirty-seven babies (90.2%) commenced complementary feeding (CF) at the completion of 6 months, and none commenced earlier than four months. 63.4% of babies (n=26) had thick CF from the beginning. In the first month of CF, 87.8% received two or more main meals. In the first month, only 41.5% (n=17) were given iron-rich food. In the first two months, all food groups were introduced to 34.1% only (n=14). Thirty-two informants have taken the information from the child health development record (CHDR) (78%), while seven (17.1%) got it from public health midwives and five (12.2%) from the hospital well-baby clinic.

Conclusions

The complementary feeding initiation and quantity are satisfactory. However, the quality and the variety of the complementary food are not up to the recommendations. The role of healthcare providers in delivering CF messages should be further strengthened.

Keywords

complementary feeding, childhood nutrition

OP 4 - Improvement of nutritional status and body composition of older adults with malnutrition using an oral nutritional supplement: A randomized controlled trial

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Introduction and objective

The consequences of poor nutritional status often manifest as weight loss and altered body composition. Oral nutritional supplements (ONS) have been beneficial in improving nutritional status. The study aimed to assess the efficacy of energy and protein-dense ONS on nutritional status and body composition in malnourished older adults.

Methods

This was an open-label, randomized-controlled, parallel-group study. A total of 50 older adults [age \geq 60 years, mini nutrition assessment (MNA) score \leq 11] were randomly assigned to the intervention (IG) and control (CG) groups (1:1 ratio). The IG received the ONS [57 g/day (247 kcal/serving, 12 g protein)] before bedtime for 12 weeks, while the CG received a glass of water. Anthropometric measurements and body composition analysis (using DEXA scan) were performed at the beginning and end of the study.

Results

A sample of 42 older adults (IG: n=20, and CG: n=22) completed the study. The mean age of the IG was 75.38 \pm 6.05 years, and the CG was 74.84 \pm 5.22 years (p=0.73). After 12 weeks, the IG showed a significant improvement in MNA score, while the CG did not (2.10 \pm 1.55 vs. -0.68 \pm 1.67 change of MNA score; p<0.001). Also, IG participants exhibited a significant percentage of body weight gain (3.91 \pm 2.64 vs. -1.10 \pm 2.34 kg; p<0.001) and a significant increase percentage of lean mass (4.70 \pm 3.57 vs. -1.96 \pm 3.90 kg; p<0.001) and percentage of fat mass (4.00 \pm 6.02 vs. 0.02 \pm 5.81kg; p=0.03).

Conclusion

Supplementing with ONS was found to be effective in improving nutritional status and body composition in malnourished older adults.

Keywords

Body composition, Malnutrition, Older adults, Oral nutritional supplement

OP 5 - Nutritional management of a child with repaired long gap esophageal atresia using gastric pull-up is complicated by severe acute malnutrition on a background of chronic malnutrition

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Introduction & Objective

Pure esophageal atresia (EA) is a rarer type of EA that occurs in nearly 1 in 40000 births. These children experience long-term feeding difficulties and growth failure. The objective is to show the importance of long-term personalized nutritional intervention to prevent malnutrition.

Clinical presentation

A 2-year-old girl diagnosed with long gap EA without VACTERAL anomalies underwent gastric pull-up at the age of 16 months. Following surgery, she experienced a longer duration of feeding difficulties and is still on a soft diet. She has experienced regurgitation, poor tolerance of large volume feeds, and recurrent lower respiratory tract infections (LRTI) since then. She was severely wasted and moderately stunted.

The upper gastrointestinal contrast study showed a pulled stomach in the chest with gross distension and narrowing of the gastric outlet.

Management

Manual dilatation of the narrowed gastric outlet was performed. Therapeutic feeds started with a target of 200kcal/kg/day with concurrent electrolyte and thiamine coverage. As the child was unable to tolerate liquids, 50% required energy offered as small-volume, frequent, energy-dense blenderized soft diet. The remaining 50% requirement is offered using BP-100 as a snack. Liquids were thickened and offered in between meals. Child was kept sited during feeding to minimize gastroesophageal reflux (GORD). The baby recovered from severe malnutrition within 6 weeks.

Conclusion

Delayed primary surgery and post-operative complications-narrowed gastric outlet, delayed gastric emptying and GORD resulted for malnutrition. Identifying them and tailoring a personalized nutritional program accordingly plays a pivotal role in management.

Keywords

esophageal atresia, BP-100

OP 6 - Audit on practice of Enhance Recovery After Surgery (ERAS) recommendations in the Gastrointestinal surgical unit at North Colombo Teaching Hospital (NCTH), Ragama

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Introduction and Objective

ERAS recommendations are applied perioperatively to optimize a better postsurgical outcome. But a discrepancy between ERAS recommendations and actual practice is observed. The objective of this audit is to assess the practice of ERAS recommendations in the GI surgical unit at NCTH.

Methods

Patients who underwent elective major abdominal surgeries, namely oesophagostomy, pancreaticoduodenectomy, and colorectal surgery at ward 32 of NCTH for six months from 1st of January to 25th of June were included. A structured questionnaire was used to collect secondary data from bedhead tickets.

The standards of the audit were according to evidenced-based ERAS recommendations for oesophagostomy, pancreaticoduodenectomy, and colorectal surgery 2019.

Results

Total of 29 patients were studied. Majority 22 (76%) were males. Pre-operative nutrition assessment was done in 21(72%) patients and 28% of patients were not referred for nutrition assessment and optimization. Body mass index (BMI) has been measured in 23(79%) patients. Fifteen patients (65%) had a normal BMI, 7(30%) were underweight, and only one was overweight. There were no obese patients. Adherence to ERAS fasting recommendations was 0%, and everyone was kept fasting overnight. Oral preoperative carbohydrate loading was given to 0%. Immunonutrient has been supplemented to 9 (31%) patients.

Conclusion

Adherent to ERAS recommendations is not up to standards in GI Surgical Unit, NCTH. Inadequate knowledge among the staff and unavailability of commercial preparations to provide carbohydrate loading and immunonutrients are main culprits. It is essential to discuss with the unit in order to adhere to evidence-based ERAS recommendations for a better post-operative outcome.

Keywords

ERAS recommendations, major abdominal surgery

OP 7 - Clinical audit on quality and quantity of hospital meals served to inward patients at ward 4, Lady Ridgeway Hospital, Colombo

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Introduction and Objectives

Proper nutrition during illness is important for the early recovery and convalescence. However, providing a nutritionally balanced meal for hospital inward patients has become a challenge with the economic crisis. Objective of this audit was to assess the quality and quantity of hospital meals, find out the gaps and to provide possible solutions.

Methods

An audit was conducted at Ward 4-Lady Ridgeway Hospital for 2 weeks duration in June 2022 at the height of the economic crisis. Sample size was 45. Children, more than 6 months of age and stayed inward more than 48 hours were selected, while excluding the patients on prescribed diets and critically ill. Data was collected via an interviewer-based questionnaire by the principal investigator. Standards for nutritional quantity (number of serving sizes per day) and quality (different food groups need to be included in the meal) for each age category was taken from FBDG 2021.

Results

Out of 45 children, 67% were less than 5 years and 33% were above. Three main meals were provided to all but not the snacks. Eighteen patients (40%) were not taking the hospital meal. Fruits and dairy products were not supplied. Quantity of vegetables were not adequate in 48%. Fifteen caretakers (55%) who received meals believed that meals need improvement and 48% were not satisfied with the diversity.

Conclusion

The Quality and Quantity of the hospital diet was below the standards of FBDG 2021 during crisis.

Keywords

Nutritional Quality, Quantity, Hospital meal

OP 8 - Prevalence of malnutrition and associated factors in children under fourteen years, admitted to a selected ward in Lady Ridgeway Hospital in Children, Colombo

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Introduction and Objectives

Malnutrition among hospitalized pediatric patients is a significant concern, as it can negatively impact growth, development, and recovery from illness. This study aimed to determine the prevalence of malnutrition and identify possible associated factors among children under 14 years old, admitted to a selected general pediatric ward in Lady Ridgeway Hospital in Children.

Methods

A descriptive cross-sectional study was conducted among 384 patients aged between 6 months and 14 years, admitted during selected two months in 2022. Anthropometric measurements, including weight, height/length were recorded upon admission and socioeconomic and demographic data were collected. CHDR growth charts were used to define the nutritional status.

Results

Among 384 patients, 62.8% (n=241) were male. and 54.5 % (n=210) were aged between 6-59 months (Group A). Majority, 72 % (n= 27) were admitted due to acute illnesses.

The prevalence of underweight, stunting, wasting and overweight in Group A were 28.7%, 20.1%, 32.1% and 6.2% respectively. Among them, 11% were included in Severe Acute Malnutrition (SAM) category.

The prevalence of stunting, wasting, overweight and obesity in patients aged 5 -14 years (Group B) were 18.3%, 29.7%, 10.9% and 8.6 % respectively.

There was no statistically significant association between wasting or stunting and sex, ethnicity, complicated pregnancy, preterm birth, complicated postnatal period or mother's employment status ($p > 0.05$) in both age groups.

Conclusion

This study highlights the alarming prevalence of malnutrition (both under and overnutrition) among pediatric patients admitted to the hospital, compared to the general population, emphasizing the need for comprehensive nutritional screening and interventions during hospitalization.

Keywords

malnutrition, prevalence, a general pediatric ward, associated factors.

OP 9 - Practices of nutrition management for secondary prevention of acute coronary syndrome in a medical unit at NHSL - Clinical audit

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Introduction & objective

Atherosclerotic cardiovascular disease (ASCVD), including acute coronary syndrome (ACS) is a major cause of morbidity and mortality in Sri Lanka. Nutrition management measures such as dietary approaches and weight management play a major role in secondary prevention of ASCVD. This study was targeted to assess the nutrition management received by ACS patients.

Methods

The audit standards were based on 2021 European Society of Cardiology (ESC) guidelines on cardiovascular disease prevention. A convenient sample of 31 patients who suffered from ACS within last one year was audited in medical clinic in May and June, 2023. Data was collected using an interviewer-administered questionnaire.

Results

Weight was measured in three (9.7%) patients and height was not measured in any patient. Weight, height and BMI was not recorded in the clinic records of any patient. Four (12.9%) patients were advised on weight management but only one (3.2%) was referred to medical nutrition unit (MNU). Six (19.4%) patients had received some dietary advice. Out of them 5 (16.1%) patients were advised on reducing fat intake, three (9.7%) patients were advised on increasing vegetable intake, and two (6.4%) patients were advised on reducing salt consumption. None of the advice was specific on the type and quantity of food.

Conclusions

Most ACS patients do not receive proper nutrition management for secondary prevention. Measures need to be taken to improve the knowledge and practices of the medical staff on nutrition management including MNU referral, for the patients with ACS.

Keywords

ACS, Nutrition Management, Prevention

OP 10 - A Clinical audit on the management of anemia in patients who have undergone major elective surgical procedures in a selected surgical unit at NHSL

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Introduction and objectives

Anemia is the commonest hematological abnormality among preoperative patients. It will determine the surgical outcome by increasing the perioperative morbidity, mortality, and length of hospital stay. This audit aimed to evaluate the practice in relation to assessment and management of anemia among the preoperative patients who underwent major surgeries.

Methods

The standards were set according to the Guideline for the Management of Anemia in the Perioperative Pathway published in 2022 by CPOC (Centre for Perioperative Care) Anemia Guideline Working Group.

The data was extracted from bed head tickets (n= 35) of patients who underwent elective major surgeries in a selected surgical unit in National Hospital of Sri Lanka during the month of June 2023. The obtained data included demographic data, type of surgery, associated comorbidities, assessment of anemia, and, the management offered.

Results

The mean age of the subjects is 42 years and 45 % (n=16) were males. All patients were assessed clinically for pallor but only 94% (n=33) were investigated using full blood count. Out of them, 33% (n=10) of patients were found to have anemia. No documentation is available regarding the further evaluation of the cause of anemia. Out of them, only 20% (n=2) were treated with blood transfusions. Documentation was not available on oral or intravenous iron therapy or further follow-up.

Conclusion

Most of the patients who underwent major surgeries are screened for anemia and transfused according to the requirement. But the complete evaluation of cause and follow-up was suboptimal.

Keywords

Pre-operative anemia, evaluation of anemia

ABSTRACTS OF POSTER PRESENTATIONS

PP1 - Audit on adherence to medical nutrition therapy on weight reduction of overweight and obese diabetic patients attending diabetes and endocrinology clinic, National Hospital, Sri Lanka (NHSL)

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Introduction and Objective

Overweight and obesity has a strong association with diabetes mellitus. According to the Clinical Practice Guideline: Diabetes 2022, published by Sri Lanka College of Endocrinologists, plate model and weight reduction targets were taken as audit standard. This audit was conducted to evaluate the adherence to medical nutrition therapy on weight reduction of overweight and obese diabetic patients.

Methods

Permission was obtained from the diabetes and endocrinology unit, NHSL Thirty-two patients aged below 65 years, followed up at the unit with BMI > 23kg/m² were audited. Data was collected using interviewer-administered questionnaire and analyzed case by case for adherence to the nutritional therapy provided at the unit.

Results

Out of 32 patients audited, majority were female (81.2%). The mean age was 53 years (26 years to 64 years). At the first visit weight and height were checked in all patients. Annual weight was measured in 90.6%. Out of the 50% who showed weight reduction only 31.2% achieved >5% reduction. Importance of weight reduction has been discussed with almost all patients. Nevertheless, weight reduction targets have not been given and weight loss has not been periodically monitored. Carbohydrate portion reduction has been discussed in almost all patients and plate model has been introduced in 78% at the first visit. Only 48% are following plate model mostly.

Conclusion

Weight reduction targets should be given to these patients and weight reduction should be monitored periodically. Plate model should be insisted and monitored regularly.

Keywords

Overweight and obesity, weight reduction targets, plate model

PP 2 - Clinical audit on practice of non-pharmacological management in pregnant women with hyperglycemia in pregnancy at Colombo South Teaching Hospital

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Introduction and objective

Hyperglycemia in pregnancy (HIP) is a common problem affecting both the mother and the fetus. It is managed with both pharmacological and non-pharmacological approaches, with medical nutrition therapy (MNT) and lifestyle changes playing a key part. This audit was conducted to assess and improve the non-pharmacological therapies provided to pregnant women with hyperglycemia.

Methods

The audit was conducted as a retrospective study on all pregnant women with HIP who met inclusion criteria and were admitted to Ward 18 at Colombo South Teaching Hospital during the period from September 20th to December 20th, 2021. Audit standards were formed based on the 2017 national consensus on HIP. An interviewer-administered questionnaire, clinic records, and bedhead ticket documentation were used to collect data on how non-pharmacological therapy was carried out in these mothers.

Results

A total of 30 pregnant women with HIP were audited. Among them, 17 (58%) were managed with non-pharmacological methods alone, 9 (30%) with additional Metformin, and the remaining 4 (12%) required additional Insulin. Out of 30 women, 28 (93.33%) were referred to the nutrition unit for non-pharmacological therapy. Only 26 (93%) were compliant with the initial visit to the nutrition unit. All who visited the nutrition unit (100%) were given an individualized diet plan and advised regarding physical activities. Most (88%) followed the prescribed dietary recommendations, but only 12% followed the exercise recommendations. Despite all receiving a follow-up date, only 21 (81%) were compliant. Every mother was planned to review 6–12 weeks postpartum.

Conclusions

Despite the satisfactory level of non-pharmacological therapy prescription, the quality can be improved by strengthening the monitoring and follow-up system in order to increase patient compliance.

Keywords

Hyperglycemia in pregnancy, Medical Nutrition Therapy

PP 3 - Clinical audit on the effectiveness of the lifestyle interventions in promoting weight loss in obese patients attending the Medical Nutrition Unit (MNU) at National Hospital of Sri Lanka (NHSL)

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Introduction

Obesity is a significant public health problem as it is associated with a number of chronic illnesses, a lower quality of life, and higher healthcare costs. Lifestyle modifications are the cornerstone of obesity management. This audit aimed to assess and improve the weight loss interventions practiced in MNU at NHSL.

Methods

A convenience sample of 34 obese patients who were started on a quarter plate model and had completed a six-month follow-up was selected. An audit proforma was used to collect demographic and anthropometric data including age, weight, height, Body Mass Index (BMI), and waist circumference. The weight loss percentage during the six-month period was calculated and compared to the standard weight loss goal of 10%, with an expected standard achievement rate of 80%.

Results

Out of the 34 participants, 26 (76.4%) were female. The average age was 47 years, ranging from 20 to 65 years. The average waist circumference was 117 cm, with a range of 100 to 142 cm. The initial average BMI was 35.2 kg/m², ranging from 28.5 to 44.7. Among the participants, 7 (20.5%) achieved a weight loss of 10% or more, while 13 (38.2%) had a weight loss of 5% or more. However, most participants, 21 (61.7%) did not achieve the target weight loss of 10%. The average weight loss across the six-month period was 5.4%.

Conclusions

Lifestyle interventions employed in the nutrition clinic have had limited success in achieving clinically significant weight loss among obese patients. These results emphasize the need for further evaluation with a larger sample size and potential modification of the current interventions to improve the effectiveness of the current program.

Keywords

obesity, weight loss goal

PP 4 - Evaluation of enteral nutrition administration practices in the Medical Intensive Care Unit (MICU) of the National Hospital of Sri Lanka

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Introduction and Objectives

Nutrition plays an important role in critically ill patients. Inadequate provision of nutrition and in-adherence to safety practices in the provision of Enteral Nutrition (EN) are causing increased mortality and morbidity. Administration of EN according to the prescribed route, method, rate, volume, type of feed and taking measures to minimize aspiration is important. This audit aims to evaluate EN administration practices in the Medical Intensive Care Unit (MICU) of the National Hospital of Sri Lanka.

Methods

A total of 16 consecutive patients on EN in MICU during November & December 2021 were audited. A checklist was prepared using the American Society of Parenteral and Enteral Nutrition (ASPEN) safe practices for EN therapy. Data was gathered from bed head tickets including Nurse's notes, monitoring charts, direct observations and interviewing of the staff.

Results

The mean age of the participants was 55 years. Among them, 56% were females and 54% were males.

All were on Nasogastric feeding. EN has started within 24 to 48 hours as recommended in 12/16 (75%) patients. 12/16 (75%) of them were on bolus feeds with combined blenderized meals and reconstitute formula. The remaining 25% were on continuous feed with exclusive reconstitute formula feeds. Disease-specific formulas were required in 8/16 (50%) patients and the remaining 50% were able to manage with standard polymeric nutrient supplements.

The hang time for reconstitute formula was > 4 hours among 3/4 (75%) of patients who received continuous feeds.

All used boiled cooled water to reconstitute powder formulas and prepare blenderized meals; none used tap water. Tube flushing was done 10/16 (63%) and flushed only after feeds or drugs.

Head of Bed elevation was done in all, but prokinetics were used only 1/16 (6%) to minimize aspiration.

Mixing drugs with feeds has been done in 4/16 (25%) which is not recommended. Following documented instructions, the type of feed was 6/16 (38%), the volume of feed was 6/16 (38%), the rate of feed was 2/16 (13%) and the frequency of feeds was 100%.

Verification of tube tip just after insertion of the NG tube was done in 10/16 (62%) by proceeding with X-rays which is the gold standard. The remaining 6/16 (38%) were done by air insufflation and auscultation methods.

Conclusion

Adherence to safe practices of EN therapy is not adequate in the unit. Lack of knowledge and heavy workload are identified as reasons for malpractice. Furthermore, the importance of a feeding chart for proper documentation on EN is also highlighted.

Keywords: EN, safe practices of EN therapy

PP 5 - Level of nutritional assessment and management of chronic kidney disease patients awaiting kidney transplant in a selected nephrology clinic: A clinical audit

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Introduction and Objective

Nutritional status assessment and optimization play a crucial role in the care of Chronic Kidney Disease (CKD) patients, particularly those undergoing kidney transplant (KT) evaluation. According to ESPEN Guidelines on enteral nutrition: Surgery including organ transplantation 2006, assessment and optimization of the nutritional status is necessary for the patients awaiting organ transplantation. This clinical audit aimed to improve the level of nutritional status assessment and management provided to the patients awaiting KT.

Methods

A retrospective clinical audit was conducted at a selected nephrology clinic in National Hospital, Colombo from May to June 2023. The study population was CKD patients, awaiting KT. This audit evaluated the level of nutritional status assessment and management compared to the guideline. Data were collected from patients' medical records.

Results

Total of 40 patients were audited. 70% (n =28) of them were male and the median age of the population was 48 years (IQR = 16.5). Actual body weight was measured in all patients. Body Mass Index was documented in 12.5% (n = 5). Body composition analysis was not done in any of the patients. Only 5% (n = 2) had their dietary history documented. Patients who had general dietary advice, referral to Medical Nutrition Unit and individualized dietary counseling were 62.5% (n=25), 7.5% (n=3) and 5% (n=2) respectively.

Conclusion

Depending on the findings, though the regular body weight measurement was implemented, the level of standardized nutritional assessment and management was not satisfactory, so the steps should be taken to improve it, to optimize the nutritional status of CKD patients awaiting KT.

Keywords

nutritional assessment, nutritional management, chronic kidney disease, kidney transplant, nephrology clinic

PP 6 - Clinical audit on oral nutrition and hydration practices of mothers with low risk of aspiration during labour following admission to labour room at ward 03, De Soysa Maternity Hospital

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Introduction

Maternal ketosis will occur due to accelerated starvation status during labour. Maternal ketosis will prolong labour, increase maternal stress and cause dissatisfaction with the birth experience. Meanwhile, the large amount of intravenous fluid may result in maternal hyponatremia.

Objectives

To estimate the percentage of mothers with low risk of aspiration, who drink liquids and take snacks during labour following admission to labour room at ward 03, DMH.

Methods

A descriptive cross-sectional study was performed on pregnant mothers admitted for delivery over two weeks duration, with singleton fetuses and no documented fetal or maternal complications. Audit standards are set at 90% for mothers with a low risk of aspiration, who drink liquids as desired, and 80% for eat snacks following admission to labour room. Evidence base was WHO and NICE.

Results

Thirty pregnant mothers fulfilled the criteria for audit. In the study population, the average age was 28.5 years and 36.7% was primipara and 63.3% was multipara. Mothers perceived the mean duration of labour was 12 hours. Mean time spent in the labour room was 4 hours.

67.7% mothers engaged in drinking as desired while 20% had solid energy sources following admission to labour room. 67.7% had water, 53% had liquids with energy sources, 33.3% had no oral intake and 37% had intravenous fluid during labour room.

Conclusion

Hydration and nutrition during labour were below the expected level in the study population.

Keywords

labour, hydration, nutrition

PP 7 - Clinical audit on the nutrition care process received by the patients with Chronic Obstructive Pulmonary Disease (COPD) at the Central Chest Clinic, Borella

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Introduction and objectives

Malnutrition, particularly undernutrition is common among patients with COPD. The consequences of malnutrition are significant and associated with poor patient outcomes and increased healthcare costs. Timely and adequate identification and management of malnutrition is vital. This audit aimed to evaluate and improve the nutritional care process received by COPD patients attending the CCC, Borella.

Methods

A convenient sample of 40 patients diagnosed with COPD, aged over 18 years who attended the CCC, Borella during 3 weeks of April 2023 were included. Relevant retrospective data were collected from clinic records. The audit standards were set based on NICE guidelines on COPD diagnosis and management updates – 2019.

Results

The mean age was 68 years and 97.5 % (n=39) were males. BMI ranged from 13.2 – 27.3kgm⁻². 80.95% (n=17) were in the low BMI category (<20kgm⁻²). Nutrition screening at the first clinic appointment was done in 27.5% (n = 11). The calculation of BMI and calculation of weight loss were 42.5% (n = 17) and 17.5% (n=7) consecutively at their initial diagnostic evaluation. Nutrition education was done in 75% (n= 15) of patients with abnormal BMI. Nutritional supplements were prescribed for 47.05% (n= 8) of patients with low BMI.

Conclusion

Nutrition screening, calculating BMI, and unintentional weight loss at their initial diagnostic evaluation were below the recommended standards. Nutritional education and supplementations were also substandard. The current nutritional care process practiced at CCC could be improved. Measures will be taken to empower the medical officers and patients.

Keywords

COPD, malnutrition, screening

PP 8 - Audit on accessibility for medical nutrition therapy for patients with chronic kidney disease in the renal unit, National Hospital of Sri Lanka (NHSL)

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Introduction and Objectives

Medical Nutrition Therapy (MNT) is a cornerstone of managing Chronic Kidney Disease (CKD). MNT is provided to both inpatients and outpatients of the NHSL, mainly by the qualified doctors of the Medical Nutrition Unit (MNU) of NHSL. Timely MNT can slow down the progression of CKD and prevent or minimize disease-related complications. Therefore, assessment of the accessibility for MNT for patients with CKD is crucial to improve patient care.

Methods

Twenty-one patients with CKD were recruited for the audit on the 3rd and 5th of March 2021 when they attended routine clinic visits in the renal clinic of NHSL. The interviewer-administered questionnaire was used to find whether patients were receiving MNT from the MNU of the NHSL.

Results

21 patients were recruited. Age ranged from 42 to 74 years, with the majority being male (52.3%). 48% (n=12) were in the normal BMI range, and 52% (n=13) were malnourished (either underweight or overweight) Only 38% (n=8) have received nutrition counseling from MNU, and 62% (n=13) have not received MNT from MNU or any other healthcare professional. 78% (n=7) of services were satisfied with the nutrition counseling they received.

Conclusion

Even though most patients are satisfied with the nutrition counseling MNU provides, this service is only reachable to some patients being followed up in the renal clinic. Actions should be taken to determine the reasons for improving the accessibility of MNT by MNU.

Keywords

CKD, Nutrition counseling

PP 9 - An audit on Vitamin B6 supplementation in patients who have started Isoniazid in the Central chest clinic - Borella

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Introduction and Objectives

This audit will focus on vitamin B6 supplementation in Tuberculosis (TB) patients who are receiving Isoniazid in Anti-tuberculosis treatment (ATT) because those particular groups of patients are more vulnerable to Isoniazid-induced peripheral neuropathy. Not only that but several other risk factors such as diabetes mellitus, uremia, alcohol, HIV infection, pregnancy, lactation, and seizure disorders induce neuropathy in TB patients who received Isoniazid. The Objective was to audit Vitamin B6 supplementation in patients who have started Isoniazid in the Central Chest Clinic- Borella. This audit will gather relevant details about the existing practice in patients who received ATT from Central Chest Clinic, Borella.

Methods

The audit standards were based on the recommendations given in the National Program for tuberculosis control and chest diseases, 2021 update. A convenient sample of 52 TB patients who attended the clinic from the 12th of June to the 25th of June 2023 was selected. Relevant retrospective data were obtained from patient clinic files and via an interviewer-administered questionnaire. The expected standard for vitamin B6 supplementation in tuberculosis patients treated with Isoniazid was set at 100%.

Results

52 TB patients were recruited for the study. 77% of patients had pulmonary tuberculosis, 9% had extra-pulmonary tuberculosis and only 6% of them had disseminated tuberculosis. 50% of patients were included in the intensive phase and remains 50% were in the continuation phase. Among them, 98% of patients (51) received Isoniazid and only 2% (1) did not. A total of 98% (51) have received Vitamin B6 while only 2% (1) have not received it. Patients who were on Isoniazid and received Vitamin B6 supplements were 100%. Out of 52 patients, 71% of them had symptoms of peripheral neuropathy and 29% of them had not it. The presence of risk factors for peripheral neuropathy such as diabetes mellitus, uremia, alcohol, HIV, pregnancy, lactation, seizure disorders, and other neuropathies were 26% (20), 0, 26% (8), 0, 0, 0, 0, and 10% (3) respectively. The availability of Vitamin B6 in the government pharmacy at Central Chest Clinic was 100% during the study period. Though 100% of the criteria were achieved, only 67% of patients were aware that they were on Vitamin B6/ Vitamin but 33% did not. Maximum, minimum, and average hours apart from Vitamin B6 intake and ATT were 15, 10, and 12.4 respectively. 53% of patients were aware to take Pyridoxine 12 hours apart from the ATT, but 47% did not.

Conclusion

Although patients who were on Isoniazid and received Vitamin B6 supplements were similar to the expected standards which are 100%, regular Vitamin B6 supply to government pharmacies should be ensured, particularly in all island chest clinics. Patient awareness regarding Vitamin B6 intake while on ATT is low and needs improvement.

Keywords: Tuberculosis, Isoniazid, Vitamin B6, peripheral neuropathy

PP 10 - An audit on nutritional screening and assessment of patients with chronic leg wounds in a surgical unit, National Hospital of Sri Lanka

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Introduction and Objectives

Chronic leg wounds are a great burden for those who are affected, the health care system, and the economy of a country. Even though malnutrition is a negative confounding factor for wound healing, the role of nutrition may have been overlooked. All patients with chronic wounds need nutritional screening and assessment when deficit is suspected. Nutritionally compromised patients need specific biochemical tests and nutrition optimization.

Objective of this audit was to assess the routine practice of nutrition screening, assessment, and specialized referral for nutrition optimization of chronic leg wounds.

Methods

A clinical audit was conducted from patients having chronic leg wounds who are admitted to a surgical Unit, National Hospital of Sri Lanka from 1st January to 30th of April 2022, using secondary data from hospital records. This is a descriptive study and “wound management clinical practice guidelines - NHS foundation trust” was taken as the audit standards.

Results

Fifty-one participants were included in this study. Majority were males (51%) and 70% (n=36) of wounds were associated with diabetes mellitus. Only 13% of the patients were screened and referred for nutrition optimization. Haemoglobin was tested in 96% (n=47) of the patients.

Conclusion

Adherence to the recommendation on nutrition screen and assessment of the patients with chronic leg wounds were not satisfactory. Therefore, acknowledge the health staff on nutritional screening and timely referring for nutrition optimization in the wound care management is important.

Keywords

Chronic wounds, nutritional screening, nutritional optimization

PP 11 - A cross-sectional clinical audit to assess the frequency of measuring weight and height in inward adult patients in a tertiary care hospital in Sri Lanka

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Introduction & Objectives

Proper weight and height measurements are significant in malnutrition screening and in assessing the efficacy of medical nutrition therapy. Nevertheless, inward patient weight and height measurements is identified to be deficient and challenging. This audit intended to determine the status of patient weight and height measurements on and during the admission, to analyze related governing factors, identifying reasons for lack of measurement, and to identify interventions to improve.

Methods

This descriptive cross-sectional audit included adult patients admitted for more than one day in the National Hospital of Sri Lanka. Immobile, psychiatric, pregnant, critically ill or unconscious patients were excluded. Data collected from approximately 10 bed head tickets from each ward selected using quota sampling.

Results

Out of 343 observations from 34 wards, only 40.2% of the patients were weighed at the time of the admission and 44.3% at least once during the stay. Height was measured in only 18.1% at the time of the admission and 19.2% during the stay. Cardiothoracic, plastic surgery, ENT and gastroenterology wards had higher measurement percentages. Moderate percentages in general medicine and neurosurgery wards, and lower percentages were noted in general surgery and urology wards. Elective admissions and independently mobile patients were measured more. No significant difference was noted between weight and height measurement rates in patients with multiple comorbidities vs previously healthy. Causes attributing to lack of measurements were, staff shortage, continuation of social distancing measures implemented during Covid pandemic and rarely, malfunctioning equipment.

Conclusion It can be concluded that inward weight and height measurements in the National Hospital of Sri Lanka is deficient, posing high risk of missing malnourished and further deterioration during the admission. Strategic approaches like policies/protocols to record anthropometry in all patients is required.

Keywords: malnutrition, nutritional screening, weight, height, NRS-2002

PP 12 - Audit on practice of enteral feeding in haemodynamically unstable patients in Medical Intensive Care Unit, National Hospital of Sri Lanka

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Introduction and objectives

Early enteral nutrition (EN) has been proven to be beneficial in critically ill patients. But one should be cautious when considering EN in haemodynamically unstable patients, since it can trigger intestinal ischaemia in some.

Purpose of this audit is to identify the gaps in the current feeding practice in the Medical ICU. Thereby highlighting the importance of implementation of appropriate measures to overcome the potential risks that may arise following the administration of EN to haemodynamically unstable patients.

Methods

Patients who were on EN support and experienced all events of hemodynamic instability during the study period were included in the audit. Retrospective data on enteral feeding during these events were extracted by referring to patient monitoring charts. An interviewer administered questionnaire was implemented to assess the knowledge among nursing officers on current recommendations. Audit standards were developed based on the Society of Critical Care Medicine (SCCM) and American Society for Parenteral and Enteral Nutrition (A.S.P.E.N.) guidelines for the provision and assessment of nutrition support therapy in the adult critically ill patient (2016).

Results

In a comprehensive analysis of 14 events involving the initiation of catecholamine, it was observed that EN was withheld in 50% of these events. Out of 19 events where the current catecholamine dose was escalated, EN was withheld in 47.4% of the events. Notably, in all three instances where mean arterial pressure dropped below 50 mmHg, EN was administered in 100% of the events. The adherence to the recommended practice of withholding EN during haemodynamically unstable events fell below the established audit standards. 19 Nursing officers were interviewed and their overall knowledge regarding enteral feeding of haemodynamically unstable patients was found to be 45.6%, which is well below the audit standards.

Conclusion

These findings highlight the need for enhanced awareness and knowledge among nursing officers with regards to the practice of enteral feeding in haemodynamically unstable patients and adoption of a formal written protocol to standardize the practice is justified.

Keywords

Enteral nutrition, haemodynamically unstable

PP 13 - Audit on timeliness of receiving therapeutic formulas by patients in the intensive care units in National Hospital of Sri Lanka

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Introduction

Nutrition support should be performed early rather delayed feeding in critically ill patients. The process of nutrition support commences with prescriptions by medical nutrition doctors. Diet is sent from ICUs to nutritionist and subsequently authorized by director. Diet clerk takes summary and order the provisions and diet is delivered. Considerable delay has been noted in this process.

Objectives

1. To determine the delay in nutrition care plan delivery process in ICUs.
2. To propose recommendations derived from the observations

Methods

A descriptive cross-sectional study was performed at all intensive care units from 19.6.2023 to 28.6.2023. All patients stayed over 48 hours and allowed oral and enteral feeding were included. Date of admission was considered as day 0. Informal discussions were held with staff to identify reasons for delay.

Results

Total of 121 diet plans from 60 patients were assessed. Median time taken at each unit was: to prescription - 0 day (IQR=0-1 day), nutritionist record - 1 day (IQR=0-1day), director authorization - 1 day (IQR=1-1 day), diet clerk check and deliver the diet-1 day (IQR=0-1day). The diet prescription sent to the nutritionist, director approval, and diet branch within a day were 49.5%, 1.6%, 0.8%, respectively. There was 3 (n=28,23%) to 5(n=17,14%) days delay in receiving diet. Sending diet sheet to multiple units, insufficient staff for transportation of sheets, lack of technically advanced communication channels and intermittent shortages of therapeutic formulas were the identified reasons.

Conclusion

The nutritional recommendations are sub-optimally met within the designated timeframe in the ICUs. We recommend measures to streamline the workflow. Follow-up audits should be conducted to assess the effectiveness of implemented solutions. References: 1. Kreymann K G, et al. ESPEN enteral nutrition guidelines:2006

Keywords

audit, therapeutic formulas, timeframe, nutrition, Intensive care unit

PP 14 - Audit on utilization of medical nutrition therapy for stroke patients with nutrition impairment, stroke unit, National Hospital of Sri Lanka

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Introduction and objectives

In Sri Lanka stroke is the leading cause of adult disability. Strokes lead to malnutrition and increased mortality. Stroke rehabilitation is a multi-disciplinary effort including nutritionist. Objectives of this audit are to ensure all the patients have undergone swallowing assessment, all the patients with nutrition problems referred for medical nutrition therapy and patients who have feeding difficulties given a written nutrition plan with next follow-up date.

Methods

A convenient sample of 30 stroke patients at stroke unit was taken who were admitted over three months. Data regarding Swallowing assessment, Mode of feeding, details on nutrition referral and nutrition plan, were gathered from the interviewer administrator questionnaire and the bed head tickets. Mid upper arm circumference or calf circumference was measured by the main investigator to identify the nutrition status.

Results

Sixty percent of patients were male and mean age was 57 years. All the patients have undergone swallowing assessment within first two days of admission. Out of the study population 93% of patients on NG feeds and 6.6% on PEG feeding. Forty-six percent of patients' mid upper arm circumference or calf circumference is less than the adult normal range. Out of all the patients on enteral feeding, only 6.6% were referred for the MNT or dietician. Only 3 % were given written nutrition plan and mentioned next follow-up visit.

Conclusion

Practice of utilization of MNT for stroke patients needs to improve further and continuous monitoring and follow up needs to emphasize the optimum utilization of MNT in stroke rehabilitation.

Keywords

Stroke unit, medical nutrition therapy

PP 15 - Audit on practices of nasogastric tube feed administration, among nursing officers working in Neurotrauma Intensive Care Units of National Hospital, Sri Lanka

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Introduction & Objective

Nasogastric (NG) tube feeding is a commonly used method of administering enteral nutrition. Flushing the tube before and after administering feeds and medication and administering feed and medication separately are important in preventing tube blockage. The objective of this audit was to improve the quality of NG feeding practices in nursing officers of Neurotrauma Intensive Care Unit (NTICU), National Hospital, Sri Lanka (NHSL), by systematically evaluating current practices of NG feeding against standards of care, identifying deficiencies and correcting them by educating the practitioners.

Methods

A standard-based audit was carried out at NTICU 4,5,6, NHSL. Data was collected using convenience sampling of 26 nursing officers, using an interviewer-administered questionnaire and a checklist of observations. Clinical Nutrition Guideline for Nutritional Management of critically ill patients which was published in 2021 by the Ministry of Health, Sri Lanka was taken as the standard of practice.

Results

Flushing of the NG tube before administering medication was observed in 73%. Flushing the tube after administering medication was observed in 100%. Only 77% flushed the NG tube before administering a feed, but 100% flushed the tube following a feed. Medicine and the feed were given separately in 100% of observations. Medicine was never given separately from each other.

Conclusions

Subjects showed good compliance (100%) to flushing the NG tube after giving feed and medicine, as well as administering the feed and the medicine separately. Partial compliance (71-90%) was seen for flushing the NG tube before administering feed and medicine. Poor compliance (<70%) was observed for administering each medicine separately. Educating on the correct practices and re-auditing is needed to minimize complications.

Keywords

Nasogastric tube, feed administration

PP 16 - Audit on the accuracy of weighing scales in Teaching Hospital, Kuliyaipitiya

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Background

Weight, measured by a weighing scale, is a vital component of a patient's medical information which is important in a number of clinical assessments such as the nutritional status, calculating drug dosages, fluid balance, and monitoring medical treatments. The aim of this audit was to determine the accuracy of the weighing scales used at Teaching Hospital Kuliyaipitiya in accordance with the Ministry of Health guidelines.

Methods

The growth monitoring guideline issued by the Family Health Bureau with World Health Organization for primary caregivers in 2014 was used as audit standards. Identification data on scale type and serial number, qualitative data on awareness of measurement error, scale calibration, growth monitoring guideline, and indicator zeroing, were obtained in the form of short interviews from unit in-charge nursing sisters and direct observation of the scales. Error type and calibration details were obtained by an interviewer-administered questionnaire and by using standard weights as quantitative data. Condemned scales and scales used for other purposes rather than patient care were excluded. A total of 20 units were covered by auditing 27 scales and interviewing 24 nursing sisters.

Results

The majority of scales (63%, (n = 17) were bathroom scales, 15% (n=4) were beam balances and 15% (n = 4) cradle type digital scales and 7% (n = 2) were spring balances. The majority (85%, n = 23) of the scales had measurement errors. Of them, 65% (n = 15) were positive, and 35% (n = 8) had negative errors. Further, 43% (n = 10) of erroneous scales had fixed errors and 57% (n = 13) were variable errors. All the audited scales were never calibrated. The majority (88%, n = 21) of nursing sisters thought there was an error in their unit scales, and 80% (n = 19) of them didn't make the scale indicator zero before measurement. None of them got involved in the calibration process and knew about the guideline. None of them had an idea of where to find standard weights.

Conclusion

The accuracy of weight measurement scales in TH Kuliyaipitiya was suboptimal. Interventions are needed to calibrate the scales and identify and correct systematic measurement errors in each scale. Nursing sisters should be empowered with information on how to optimize their unit scale measurement accuracy.

Keywords

Accuracy, Weighing Scales, errors

PP 17 - Clinical audit on detection and management of iron deficiency anemia in paediatric age group in a ward setting at Colombo South Teaching Hospital

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Introduction and Objectives

Iron deficiency is the commonest micronutrition deficiency among children worldwide. Iron deficiency is easily treatable and preventable.

To evaluate the present practice of diagnosing and managing iron deficiency in a ward setting at a tertiary care hospital.

Methods

The audit was conducted as a retrospective study done during month of July in a paediatric ward. Data was collected from record room BHT based on the questionnaire and transferred to data collection sheet. Children with chronic disease or other diseases associated with iron deficiency anaemia and less than 6 months of age were excluded. The World Health Organization standards for haemoglobin (Hb) levels used to diagnose anaemia and Paediatric and Neonatal Iron Deficiency Anaemia - National Blood Authority Australia (2017) to manage anaemia were defined as audit standards. Children aged 6 months – 16 years admitted during the study period were included.

Results

Out of 50 patients, 28 (56%) were males. 78% of children were between 6 to 59 months, 18% were between 5 to 11 years and 4% were between 12 to 16 years. Amongst <5-years, 61% had mild and 39% had moderate anaemia. All the children (100%) aged >5-years had moderate anaemia. Out of the anaemic patients, 32% had their dietary history evaluated and were advised on modification, 10% were planned for iron studies and 34% were started on iron treatment with clinic follow up.

Conclusion

Current practices of detecting and managing iron deficiency in paediatric ward setup could be improved, particularly in terms of analyzing the dietary modification, detection of iron deficiency and cause for anaemia and management.

Keywords

Iron deficiency, anaemia, nutrition

PP 18 - Clinical audit on lifestyle modifications of diabetic patients attending medical clinic of Teaching Hospital, Ragama

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Introduction and Objective

Diabetes mellitus is a metabolic disorder associated with chronic hyperglycaemia leading to complications. It causes significant morbidity and mortality.

2021 Sri Lankan National Guideline for Management of Diabetes provides a comprehensive guide on diabetic care. It explains the importance of lifestyle modifications and advises physical exercises, dietary management and weight management for diabetic patients.

Objective

To assess the adherence of practice on lifestyle modification for diabetic patients attending medical clinic as compared to the National Guideline.

Methods

This audit is on patients attending medical clinic of ward 15 and 16 during May 2023. All the patients who were diagnosed as type 2 currently on treatments or diet management and willing to participate in study were included. Type 1 diabetic patients and diabetes due to secondary causes were excluded. Patients were interviewed with 3 questions regarding physical exercise, dietary management, and weight management. If they were advised on these three areas by a healthcare professional at the clinic were considered as advice received.

Results

Out of 80, 31% (n=25) received advice on physical exercises. Nutrition advice was provided for 53.7% (n=43). Forty-nine patients had Body Mass Index (BMI) $\geq 23\text{kg m}^{-2}$. Out of 49 only 40.8% (n=20) received advice on weight management.

Conclusions

National Guideline for Management of Diabetes strongly recommends lifestyle modification mainly for all patients on physical exercise, dietary management, and weight reduction if BMI $\geq 23\text{kg m}^{-2}$. This study revealed around 50% or less patients received advice.

Keywords

Diabetes, exercises, diet, weight

PP 19 - Clinical audit on practice of preoperative fasting in elective surgical patients in two surgical wards at National Hospital Colombo, Sri Lanka (NHSL)

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Introduction & Objective

Prolonged preoperative fasting can adversely affect perioperative hydration and insulin sensitivity. The objective of this audit is to improve the practice of preoperative fasting of patients undergoing elective surgical procedures under general anaesthesia.

Methods

A prospective clinical audit was conducted over two weeks. Practice of preoperative fasting was audited against recommendations of Enhanced Recovery After Surgery (ERAS) protocol, keeping standards at 90%. An interviewer-administered questionnaire and secondary data in Bed Head Tickets (BHTs) were used. Recommendations were made based on results and a re-audit was planned six months after implementation.

Results

Of the 23 surgical patients included, 14 (61%) were male. 14 (61%) surgeries commenced before 10 am. Median fasting time for clear liquids and solids were 11.5 and 12.5 hours respectively. All patients fasted from clear liquids twice as long as recommended. 57% of patients fasted for solids for more than 12 hours. All patients received verbal advice on preoperative fasting from a nursing officer. Out of these, 16 (70%) were also advised by a medical officer. Advice was documented in 22 (96%) BHTs of which 8 (36%) were documented as fasting for six hours for solids, two hours for clear liquids; but only one (12%) patient perceived that advice. 20 (87%) patients experienced some degree of thirst preoperatively.

Conclusions

The audit identified gaps between standard and current practice. Discrepancies were evident between documented advice and advice perceived by the patients. Patient education and engagement, organization of theater timing, educating and empowering ward staff can be recommended to reduce prolonged preoperative fasting.

Keywords

ERAS, preoperative fasting

PP 20 - Clinical audit on pre-operative fasting in adult surgical patients awaiting elective surgery

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Introduction and Objective

Pre-operative fasting recommendations for elective surgery are well recognized and taught. This audit evaluated adherence of adult surgical patients and knowledge of healthcare workers on pre-operative fasting guidelines for solids and liquids in National Hospital, Colombo.

Methods

The key outcome variables measured are patient adherence and knowledge of healthcare workers (HCW) on pre-operative fasting recommendations. The study spanned over two months and involved 40 adult patients awaiting elective surgeries under general or spinal anesthesia, along with 15 HCWs.

Results

None of the patients adhered to the recommended fasting periods for solids and liquids. 5% (n=2) of studied patients fasted for 8 -10 hours, 95%(n=38) fasted for more than 10 hours and 10%(n=4) of patients had fasted more than 18 hours even for clear liquids, despite having received correct advice on pre-op fasting. All HCWs (n=15) were knowledgeable about six- hour fasting period for solids. However, 6.67% (n=1) of them were not knowledgeable about two-hour fasting for clear fluids. Further, contrary to the guideline all HCWs believed that bowel surgery requires prolonged pre- and post-operative fasting.

Conclusions

The audit reveals that most patients fasted longer than recommended for solids and clear liquids, while knowledge of importance of shorter fasting is poor among HCWs. Therefore, reorientation of HCWs on adherence to pre-operative fasting guidelines is required through training, emphasizing the significance of reducing fasting periods and continuous awareness for patients to ensure patient safety and optimal surgical outcomes.

Keywords

Pre-operative fasting, elective surgery, healthcare staff

PP 21 - Clinical audit on protein intake of maintenance haemodialysis patients at the National Hospital of Sri Lanka.

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Introduction and objectives

The prevalence of chronic kidney disease is increasing worldwide. Haemodialysis is a treatment option for end-stage renal disease (ESRD) patients. According to the KDOQI clinical practice guideline 2020, The recommended protein intake is 1.2g/kg/day. Inadequate intake leads to protein malnutrition. The objective of this study was to assess whether patients on haemodialysis consume adequate amounts of protein as prescribed.

Methods

A total of 30 patients with ESRD without associated infections undergoing haemodialysis 2-3 times per week from 01.05.2023 to 14.05.2023 were included. A 24-hour dietary recall with anthropometric measurements taken. Protein content was analyzed using Nutri Survey software. Food affordability, availability, and knowledge of protein intake were assessed with an interviewer-administered questionnaire where demographic information and questions on knowledge of adequate protein intake were included.

Results

The majority 25 (83%) of the patients had an intake less than 1.2g/kg/day. 15 (50%) had a protein intake of less than 0.6g/kg/day. There was 1(3%) patient who took a protein intake of 2g/kg/day. In the majority 26 (86%), had no issues with the availability of food. Out of the 30 patients interviewed 15(50%) had difficulty in affording protein-containing foods. Only 7(23%) of the patients had knowledge of adequate intake of proteins.

Conclusion

The majority 25 (83%) of the patients did not take adequate amounts of protein during haemodialysis. The reasons were financial difficulties and the lack of knowledge of adequate protein intake. It is important to optimize the nutrition of these patients. Individualized nutrition care plans should be given along with nutritional counseling on adequate protein intake with education on cheaper options.

Keywords

End-stage renal disease, Haemodialysis, Protein intake, protein malnutrition

PP 22 - Assessment of existing level and effect of training on adherence to standard steps in height measurement among nurses and medical students working in a surgical ward at NHSL

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Introduction and Objectives

Calculation of BMI is one of the main methods used to assess nutritional status in hospitalized patients. Accurate measurement of height is crucial, as any deviation can interfere with diagnosis of malnutrition and appropriate management. The main aim of the audit was to assess the existing level and effect of training on adherence to standard steps in height measurement among nurses and medical students working in a surgical ward at NHSL.

Methods

Ten steps of height measurement in the anthropometric measurement manual published by the Centre for Disease Control and Prevention were taken as the standard. A convenient sample of nurses and medical students (n=24) were observed during height measurement using a checklist with ten standard steps. All were given individual training on standard method of height measurement and reassessed following one week using the same checklist. Each correct step was given one mark (total=10) and pre and post-training average scores were compared using paired t test.

Results

The majority (71%, n=17) of the participants were medical students and the rest (29%, n=7) were nurses. The pre-training average score was 5.29. Post training average score was 9.04 which showed a statistically significant increase (t=13.84, p<0.001) in adherence to standard steps of height measurement.

Conclusion

Training is effective in improving adherence to standard steps of height measurement in the short term.

Keywords

height measurement, effect of training

PP 23 - Clinical audit on initiation of medical nutrition therapy after admission at Surgical Intensive Care Unit, National Hospital of Sri Lanka

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Introduction and Objectives

Early initiation of medical nutrition therapy is one of the key factors that reduce the mortality and morbidity of ICU patients. The below audit was conducted to identify adherence to ESPEN guidelines on initiation of medical nutrition therapy (MNT) in ICU patients.

Methods

A data collection tool was used to obtain data from ICU admitted patients of age more than 18 years from 15th of May 2023 for a period of one month. Patients who did not stay for more than 48 hours in the ICU (death within 48 hours or discharged) and patients who were already on medical nutrition therapy before the admission were excluded from the audit. ESPEN guidelines on clinical nutrition in the intensive care 2019 were used as audit standard for which the data was compared. Informal discussions were held with the relevant staff to identify the reason for delay in MNT.

Results

General nutrition assessment was done on all patients (100%) within 48 hours and only 23(69.7%) patients were started on MNT within 48 hours. Out of above 23 patients, 12(36.3%) were started on oral, 5(15.1%) were started on enteral and 6(18.1%) were started on parenteral nutrition. Seventeen patients were gastrointestinal-related surgical admissions and out of that only 47% of patients were started on MNT within 48 hours. Out of other sixteen patients 93% started on MNT.

From informal discussions held, delay between prescription of diet to delivery to patient, non-availability of oral nutrition supplements and surgical decisions were identified as main causes of delay in initiating MNT.

Conclusion

Even though general nutrition assessment was done in all patients, initiation of MNT within 48 hours was sub-optimal. Measures should be taken to rectify the delay in initiating MNT.

Keywords

Medical nutrition therapy, time, feeding

PP 24 - Clinical audit on screening of long-term complications in overweight and obese women with polycystic ovary syndrome (PCOS) at subfertility clinic of Castle Street Hospital for Women, Colombo

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Introduction and Objectives

Insulin resistance associated with Polycystic Ovary Syndrome (PCOS) contributes to overweight, obesity, impaired glucose tolerance, and type 2 diabetes, elevating cardiovascular risk. The Royal College of Obstetricians and Gynecologists (RCOG) provides guidelines for PCOS, including screening for diabetes, obesity, and hypertension, along with risk reduction strategies. This audit assesses adherence to these standards.

Methods

Data was collected from 35 overweight and obese women with PCOS attending Castle Street Hospital for Women's Subfertility Clinic using an interviewer-observed checklist. The study duration was one month. Exclusion criteria were PCOS patients with a BMI below 25 and those previously diagnosed with diabetes or hypertension.

Results

The mean age of participants was 30 years, 80% (n=28) were overweight and 20% (n=7) were obese. All 100% of participants (n=35) underwent BMI assessment, and medical nutrition unit referrals were made, and all received dietary and lifestyle advice. However, only 37% (n=13) of women underwent type 2 diabetes mellitus screening within the past year, and blood pressure measurements were recorded for only 8.5% (n=3) of women with PCOS during the same period.

Conclusions

While obesity assessment and provision of lifestyle and dietary advice met expectations, screening for diabetes and blood pressure measurement fell short. There is a need to enhance healthcare professionals' awareness of screening for PCOS's long-term complications such as diabetes mellitus and hypertension. Implementing a checklist for screening and managing metabolic complications in PCOS patients would promote optimal care.

Keywords

Polycystic Ovarian Ovary Syndrome (PCOS), Royal College of Obstetricians and Gynecologists (RCOG), Obesity, Overweight, Diabetes mellitus

PP 25 - Clinical audit on pre-operative fasting time of patients undergoing elective surgeries in four surgical wards of National Hospital Sri Lanka

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Introduction & Objective

The main objectives of Enhanced Recovery After Surgery (ERAS) protocol are to achieve early postoperative recovery and to minimize postoperative complications. According to the guideline patients awaiting elective surgery are allowed to take solids up to 6 hours and clear fluids up to 2 hours before induction of anaesthesia. Despite the above recommendations fasting practices in wards vary widely which was also proven by previous audits. This audit was done to find the current practices on preoperative fasting of patients undergoing elective surgeries in 4 surgical wards in National Hospital Sri Lanka (NHSL) for 1-month duration.

Methods

A cross-sectional study was done during June 2023, using thirty Bed Head Tickets (BHT) of patients who underwent elective surgeries in four surgical wards at NHSL. Standards for pre-operative fasting as mentioned above were considered according to European Society of Parenteral and Enteral Nutrition (ESPEN) guidelines on Clinical nutrition in surgery.

Results

Fasting instructions were recorded in all the Bed Head Tickets (BHT) by the anaesthetic team and only 13 out of them were recorded by surgical team additionally. Initiation time of fasting was documented in all the BHTs by a nurse but not separately documented for solids and clear fluids except in one BHT where the patient kept fasting according to standards. Mean duration of fasting for solids was 9.25 hours. Fasting was done according to the standards for solids only in 10% (n=3) out of all patients.

Conclusions

Patients undergoing elective surgeries are having prolonged fasting periods even though there are recommendations.

Keywords

Pre-operative fasting, ERAS protocol, preload

PP 26 - Nutritional management of a disabled severely malnourished patient with reactivation of pulmonary tuberculosis

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Introduction

There is a bidirectional association between malnutrition & tuberculosis. Malnutrition impairs immunity & increases susceptibility to infections. Tuberculosis results in reduced appetite, altered metabolism and malabsorption of nutrients leading to undernutrition. Medical nutrition therapy may improve outcomes in patients with tuberculosis.

Clinical Presentation

29yr old male lived in a care home for mentally handicapped presented with difficulty in breathing, productive cough, low grade intermittent fever & constitutional symptoms for 1 month duration. There was a history of childhood epilepsy, excision of hypothalamic Hamartoma, conduct disorder & sputum positive pulmonary tuberculosis in 2020. This time managed as reactivation of pulmonary tuberculosis with superadded bacterial infection. While in the ward he developed type 1 respiratory failure, was intubated, ventilated and medical ICU care was given for 9 days & transferred back to ward for continuation of care.

He was pale, BMI - 13.4kg/m², MUAC- 18cm, and had subcutaneous fat loss, skeletal muscle loss with dry scaly skin.

Hb – 7.3g/dl, Na⁺- 127mmo/l, K⁺ – 3.3mmol/l, Phosphate – 3.8mg/dl, corrected Ca²⁺ - 9mg/dl, Mg ²⁺ - 1.2mmol/l, Vitamin D – 18.8ng/dl.

Management

As he has a high risk of refeeding syndrome provision of energy & protein gradually escalated with correction of electrolyte imbalances & micronutrient deficiencies. Patient improved clinically with a 70g/d of weight gain.

Conclusions

Medical nutrition therapy plays a pivotal role in the management of patients with tuberculosis by preventing protein-energy malnutrition, micronutrient deficiencies, drug-nutrient interactions & enhancing the response to drugs.

Keywords

Tuberculosis, Malnutrition, Medical nutrition therapy

PP 27 - Nutritional optimization of a patient with a high ileostomy output and severe malnutrition due to ileal tuberculosis

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Introduction

Intestinal tuberculosis is an uncommon cause of ileal perforation & it's challenging to diagnose clinically. High output ileostomy is defined as output > 1.5L/d. It may lead to dehydration, electrolyte imbalances, and acute kidney injury. It may be successfully managed with the collaboration of multidisciplinary teams including nutrition.

Clinical presentation

Twenty-one-year-old lady presented with RIF pain, high-grade fever, vomiting, loss of appetite, and loss of weight for 2 weeks & underwent an open appendectomy. On postoperative day 14, she developed generalized abdominal pain, intractable vomiting & absolute constipation suggesting subacute intestinal obstruction. Exploratory laparotomy & creation of a loop ileostomy was done proximal to the serosal tears in the distal jejunum. Oral clear fluids were started on postoperative day one. Her BMI – 14.9kg/m² Na⁺ 134mmol/L, K⁺ - 3.5mmol/L, Phosphate – 3.6mg/dL, Mg²⁺ - 0.7mg/dL Albumin – 2.9g/dL. Ileostomy output – 1650ml/24hrs.

Management

The patient was rehydrated with IV fluids. Restriction of hypotonic/hypertonic fluids to < 0.5L/d & introduction of sodium and glucose solution which contains 90 mmol/L was done. A tailored dose of antimotility agent (oral loperamide), antisecretory agent (IV omeprazole), and antiemetic (IV octreotide) was started. Peripheral parenteral nutrition was started with correction of electrolyte imbalances & micronutrients until enteral feeds were established to provide high-energy and protein diet. Daily monitoring of the weight, input/output, and SE were done & managed accordingly.

Conclusions

Medical nutrition therapy plays a pivotal role in managing patients with high-output ileostomies as a part of multidisciplinary team.

Keywords

high output stoma, ileal tuberculosis, medical nutrition therapy

PP 28 - Nutritional management of an adolescent girl with Crohn's disease presented with severe thinness and oedema

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Introduction and objectives

Crohn's disease can manifest in various clinical presentations including malnutrition.

Medical nutrition therapy in conjunction with disease-specific treatment to control disease activity, ensure optimal growth and puberty in adolescents with Crohn's disease.

Medical nutrition therapy is not universal and needs to be customized for the patient.

Clinical Presentation

A thirteen-year-old girl from poor socio-economic background was admitted with severe wasting and oedema. She had blood-stained stools and nonspecific abdominal pain for one year with subjective weight loss, reduced appetite, and lethargy. She has not attained menarche.

Examination revealed severe thinness with BMI of 13.4 kgm⁻². She had bilateral ankle oedema, pallor, and clubbing. Tanner stage was four.

She had hypoalbuminemia and hypochromic microcytic anemia. Vitamin B12 level was low. Colonoscopy showed ileal thickening and histology confirmed Crohn's disease. Steroid therapy and azathioprine were started.

Nutritional management

Nutrition therapy was provided orally, gradually targeting 60 kcal/kg/d energy and 1.5 g/kg/day protein while monitoring hemodynamic parameters and electrolytes to prevent refeeding syndrome. Therapeutic formula (F100) was added to fill the nutrient gap in her intake. Intravenous iron and intramuscular vitamin B12 were given. Oedema was settled and discharged with a nutrition plan including homemade F100 and modified family diet with locally available energy-dense cheaper food sources. Regularly followed up and by six months, achieved 9 cm per year height velocity with normal BMI of 16.1 kgm⁻².

Conclusions

Clinical suspicion is important to make the diagnosis. Management of adolescents with disease-related malnutrition is challenging. Customized medical nutrition therapy in conjunction with disease-specific treatment ensures achievement of nutritional targets.

Keywords

Crohn's disease, malnutrition, F100

PP 29 - Management of hypophosphatemia in critically ill patient following restoration of gut continuity

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Introduction

Inorganic phosphate is absorbed along the length of the intestine, with the small intestine having significantly higher absorption capacity. Phosphate is absorbed by two distinct mechanisms; paracellular phosphate transport and intracellular transport which occurs through the sodium-dependent phosphate co-transporters. Gastroparesis is a common post-operative complication which causes poor phosphate absorption leading to hypophosphatemia.

Clinical Presentation

An 81-year-old lady transferred from private hospital with signs and symptoms suggestive of severe dehydration three days after reversal of sigmoid colostomy. She is known to have diabetes, hypertension and underwent sigmoid colostomy six months back. She has been having solid diet since colostomy but was kept nil by mouth for three days and was on IV fluid after colostomy reversal.

Management

Dehydration was managed, NG feeds and supplementary parenteral nutrition started. For moderate hypophosphatemia, available oral phosphate supplement 1mmol/kg/day was started. Delayed gastric emptying was identified IV metoclopramide and oral Erythromycin started. Phosphate level was continuously low despite the supplementation and S. sodium was subnormal. Phosphate dose was increased up to 2mmol/kg/day and was given with ORS which led to correction of hypophosphatemia. Patient was mobilized and hyperglycaemia was managed accordingly. With the above management significant clinical improvement was observed.

Conclusion

Treatment of hypophosphatemia is a challenge in resource-poor setting in the absence of IV phosphate and is difficult in patients with gastroparesis. It can be successfully managed by adjusting the oral phosphate dose, adjuvant sodium supplementation, and treatment of associated surgical complications.

Keywords

hypophosphatemia, gastroparesis, phosphate absorption.

PP 30 - Nutritional management of a severely malnourished patient with complicated chronic mitral regurgitation and possible cardiac dysphagia (dysphagia megalatriensis)

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Introduction and objective

Cardiac dysphagia is an uncommon clinical entity which can be present in patients with chronic valvular heart disease. It is caused by external compression of the esophagus by the dilated left atrium. Early diagnosis and individualized nutrition management need to be implemented to prevent further deterioration of the patient.

Clinical presentation

Sixty-four-year-old female patient with chronic mitral regurgitation (NYHA class 4) presented with left upper limb weakness. She was medically managed as infective endocarditis complicated with possible septic embolization leading to a cerebrovascular accident. Subsequently, she developed dysphagia for both solids and liquids. She had a similar episode of dysphagia two years back. Upper gastrointestinal endoscopy excluded luminal causes for dysphagia. Her echocardiogram showed dilated left ventricle (63 mm). The chest x-ray had features of left atrial dilatation. She was on a low-energy, low-protein, consistency-modified diet until this acute presentation. According to the nutritional assessment she was severely malnourished with a high risk for refeeding syndrome and probable sarcopenia.

Management

Medical nutrition therapy was initiated to treat severe malnutrition with precautions to prevent refeeding syndrome. Consistency-modified, high energy, high protein, volume-restricted nasogastric tube feeding, and micronutrient supplementation were started. Swallowing assessment and grading of dysphagia were planned. Holistic care was provided with the liaison of the medical team to optimize the heart failure regimen including diuretic treatment.

Conclusion

Cardiac dysphagia is a possible cause of nutritional deterioration in patients with chronic valvular heart disease. It should be ruled out if a patient with left atrial dilatation presents with dysphagia. Both nutritional and medical management are equally important to improve the patient's nutritional status.

Keywords

cardiac dysphagia, severe malnutrition

PP 31 - Nutrition optimization in a patient with complicated thoracic drain following oesophagectomy

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Introduction

For many patients who develop postoperative complications precluding oral intake, jejunostomy tubes remain an important option for nutrition optimization in a patient with oesophageal carcinoma.

Clinical presentation

A 45-year-old male with a history of dysphagia and weight loss found to have a lower esophageal carcinoma underwent a Trans hiatal oesophagectomy. Feeding Jejunostomy tube was placed intraoperatively. Closed suction neck drain is placed near the cervical anastomosis. On the second day postoperatively an air collection into the neck drain was noted. An urgent thoracic CT (Computed Tomography) was performed and found to have dislodged neck drain into the stomach. Later the neck drain was removed spontaneously and a fistula was suspected. His pre-operative BMI was 16 kgm⁻² and mid upper arm circumference was 19cm. He had more than 20% weight loss over last two months.

Management

Post-operative feeding commenced from postoperative day one via jejunostomy tube while monitoring for refeeding syndrome. Electrolytes and micronutrients were replaced accordingly. Enteral feeds started from 25% of his total calorie requirement. He was not started on oral feeding so jejunostomy feeding continued using standard polymeric diet. To achieve his target calorie requirement feeding volume increased gradually up to 180ml/hour. After a month a contrast CT was performed and confirmed the fistula track had closed hence oral feeding commenced. Despite prolonged enteral feeding via jejunostomy patient gained weight and nutritionally improved.

Conclusion

Early commencement of jejunostomy feeding is essential to achieve good outcomes following oesophagectomy despite post-operative complications.

Keywords

Oesophagectomy, Jejunostomy, Fistula

PP 32 - Secondary lactose intolerance complicated with severe dehydration and cardiac arrest in a newborn

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Introduction & Objective

While lactose intolerance is not uncommon in any population life threatening complications were not reported. We report a case of a 1-month-old baby who had an episode of lactose intolerance whose effects get worsened with an acute febrile illness and led to severe dehydration and hypovolemic shock followed by cardiac arrest and complicated post resuscitative period.

Clinical presentation

The exclusively breast-fed baby had greenish color diarrhea for 2 weeks of age without none of the features of sepsis and with adequate weight gain. Although it worsened with time with volume and frequency up to 15 times per day it was managed with reassurance of patients and increasing the frequency breast feeding. But at the age of 1 month, he rapidly deteriorated with an acute febrile illness and was brought to the A and E where he was found to have severely dehydrated and suddenly went into cardiac arrest. He was successfully resuscitated and transferred to ICU care. Keeping nil oral during ICU stay helped to relieve diarrhea and restarting breast milk led to restarting diarrhea, thus secondary lactose intolerance was considered.

Management

Baby was started with lactose-free soy protein-based formula milk withholding breast milk, which led to complete resolution of diarrhea. Expressed breast milk was reintroduced slowly after 3rd week of recovery.

Conclusion

Lactose intolerance in newborns can lead to life-threatening complications and once identified it is successfully treatable with lactose-free formula milk.

Keywords

Lactose intolerance

PP 33 - Nutritional management of a patient with severe oral mucositis complicated with severe malnutrition

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Introduction and objective

Oral mucositis is the inflammation of oral mucosa caused by chemotherapy, radiotherapy, drugs, or other local factors. This may cause inadequate oral intake and malnutrition. We report a patient who presented with severe mucositis complicated with severe malnutrition and underwent nutritional optimization.

Clinical presentation

A 60-year-old female on long-term methotrexate, presented with severe pain and swelling of the lip and oral cavity and odynophagia for 6 months. Her energy and protein intake were 10 kcal/kg/d and 0.5g/kg/day respectively leading to 44% weight loss over the last 6 months.

According to GLIM criteria, she was severely malnourished with a BMI of 17.1kg/m² and MUAC of 18.5cm. She had grade 3 mucositis and cheilitis with other features of micronutrient deficiency. Investigations revealed an albumin level of 1.8g/dL with a hemoglobin level of 11.5g/dL.

Management

Considering the risk of refeeding syndrome, feeding was started with 15kcal/kg/d of energy and gradually advanced to 50kcal/kg/day with 2g/kg/d of protein intake. Oral feeding was continued with texture modified diet while bridging the energy deficit with supplementary peripheral parenteral nutrition and oral nutritional supplements.

Glutamine, probiotics, and high doses of micronutrients were supplemented including vitamins A, B, C, D, E, thiamine, and zinc. Supportive care was given with natural antioxidant agents (Bee honey). At the end of two weeks, mucositis improved from grade 3 to 1, and gained 1.6kg of weight.

Conclusion

Adequate nutritional support combined with glutamine, probiotics, micronutrient supplements, and natural products could improve oral mucositis.

Keywords

Mucositis, severe malnutrition, micronutrient supplementation

PP 34 - Nutritional management of a patient with retroviral infection complicated with severe malnutrition

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Introduction and objective

Retroviral infection is associated with wasting syndrome, increasing disease related morbidity and mortality. Malnutrition, which is multifactorial in this category of patients, warrants an individualized nutrition care plan. We report a patient diagnosed to have retroviral infection who was severely malnourished and wasted on presentation, who underwent successful nutritional rehabilitation.

Clinical Presentation

Thirty-five years old, previously healthy male patient, presented with loose stools for eighteen months associated with loss of appetite, leading to 30% weight loss over 6 months. His energy and protein intake were 20kcal/kg/day and 0.8g/kg/day, respectively. He was having severe malnutrition according to GLIM criteria with a BMI of 15kg/m², Mid Upper Arm Circumference of 18cm. He was dehydrated and features of micronutrient deficiencies were present. Investigations revealed electrolyte imbalances including hypokalemia, hypophosphatemia and hypomagnesemia. He was vitamin D deficient. Other basic investigations were normal.

Management

Dehydration and electrolyte imbalances were corrected and short course of Thiamine 100mg was given. Calorie intake was gradually increased to 40kcal/kg/day due to risk of refeeding syndrome. Oral Nutrition Supplement was given to bridge the energy gap. Therapeutic dose of vitamin D and recommended daily allowance of micronutrients were given. Patient engaged in daily exercises. Following six weeks of nutrition rehabilitation with close follow-up, patient achieved a BMI of 17kg/m², recovering from severe malnutrition.

Conclusion

Individualized nutritional support is essential in the multidisciplinary approach of management of patients with retroviral infection, which supports improving survival and quality of life.

Keywords

Retroviral infection, malnutrition, wasting syndrome, weight loss

PP 35 - The nutritional management of a patient with systemic sclerosis is complicated by gastrointestinal manifestations

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Introduction

20% of the deaths from systemic sclerosis (SS) are related to malnutrition and secondarily to gastrointestinal system involvement. This case report aims to highlight the importance of medical nutritional therapy in the early course of the disease.

Clinical presentation

A 32-year-old female patient was diagnosed with SS for a 1-year duration. She had 33% weight loss over the last 6-month duration. Her daily energy consumption decreased from 35 kcal/kg/day to 18 kcal/kg/day secondary to dysphagia, gastroesophageal reflux disease, microstomia, and xerostomia. She felt exhausted from eating due to difficulty with hand manipulation.

Her BMI was 16.3 kg/m². Skin thickening was seen in the face and over both hands, extending from the wrist joint and involving whole fingers. The mouth aperture was small, with limited opening. Swallowing assessment showed a delayed pharyngeal phase for different consistency. An upper gastrointestinal endoscopy showed evidence of severe esophagitis.

Management

Energy intake gradually increased with concurrent electrolyte and thiamine coverage. over a month, able to reach energy 40kcal/kg/daily with protein 1.5g/kg/daily. Energy-dense, soft, moist, and small-volume meals were offered during the daytime, with continuous enteral feeding at night. An oral nutrition supplement was given to bridge the energy and protein gap. Liquids were thickened to reduce aspiration risk. The patient was empowered to engage in occupational therapy to improve fine motor skills in hands and facial exercises to maximize mouth opening. Patient's BMI improved to 19kg/m².

Conclusion

Hence, vigilant surveillance for nutritional risk from the beginning of the disease course and providing appropriate interventions are needed for success.

Keywords

systemic sclerosis, medical nutrition therapy

PP 36 - Nutritional management of an adult patient with acute severe malnutrition

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Introduction

Malnutrition can be chronic or acute. Stable malnutrition is usually due to chronic starvation. Acute malnutrition may be either severe or moderate. All patients with nutritional edema are considered as acute severe malnutrition with higher risk of death. The metabolism doesn't utilize nutrients for gain weight. In moderate acute malnutrition patient remains metabolically stable, despite the active weight loss, they can recover with food without medical stabilization.

Clinical presentation

A 50-year-old type 2 diabetes patient presented with Bilateral lower limb swelling, and generalized body itchy rash for three weeks' duration associated with loss of appetite and weight loss. He is a heavy alcohol consumer and had undergone Whipple procedure 6 years back. Examination found ill looking, afebrile, emaciated patient with a body mass index of 13kgm² and generalized scaly rash. He had bilateral pedal edema. Blood picture revealed mixed deficiency anemia. S. Albumin – 1.6 g/dl. Urine culture was positive for coliform. Serum electrolytes were normal.

Management

Started feeding with 40 kcal/kg/day energy and, edema resolved with improved appetite on day 3. We increased the calorie up to 50kcal/kg/day and discharged him on day 5. Zn, iron, and IV vitamin B complex supplementation were given to the patient with the itchy rash was settled.

Conclusion

Severe acute malnutrition with bilateral pitting edema with non-critical acute medical illness is an undervalued clinical presentation in medical setup. Therefore, awareness about adult acute severe malnutrition and its presentation among medical caregivers will benefit the overall patients' outcome.

Keywords

Adult, Acute Malnutrition. Nutrition Management

PP 37 - Nutritional rehabilitation of a chronic obstructive pulmonary disease patient who had presented with smear-positive pulmonary tuberculosis and pulmonary cachexia

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Introduction

Chronic obstructive pulmonary disease (COPD) and pulmonary tuberculosis (PTB) are independent and concurrent conditions contributing to pulmonary cachexia. The objective is to identify importance of multimodal interventions from beginning to preserve muscle mass.

Clinical presentation

Seventy-eight years old patient who is an ex-smoker with thirty pack years, having background history of COPD, currently on treatment for smear positive PTB. He experienced 10% weight loss over the last month, a 60% reduction in food intake from baseline with marked anorexia. He felt exhausted from eating due to dyspnoea.

On examination, He was wasted, BMI was 17.1kg/m² and reduced muscle mass and strength evidenced by a mid-upper arm circumference of 17cm, mid-calf circumference-29cm, bioimpedance analysis-whole body fat-free mass index of 12.4kg/m² and hand grip strength 22kg in the dominant hand.

Management

Stepwise energy increment with concurrent electrolyte and thiamine cover considered due to refeeding risk. Energy-dense small-volume enteral feeds are offered to avoid postprandial dyspnoea. An oral nutritional supplement enriched with leucine was considered to bridge the energy and protein gap. Caretaker engaged patient in regular resistance training from the beginning. BMI remained static during treatment while three months after completion of treatment BMI improved to 19kg/m², fat free mass index improved to 15.3kg/m².

Conclusion

Cachexia per se is unresponsive to standard nutritional support. Hence goal should be to minimize muscle loss during catabolic events and to maximize anabolism during the recovery period with a multimodal approach with nutrition, anticatabolic agents, and exercises.

Keywords

pulmonary cachexia, multimodal approach

PP 38 - Revisiting the evidence-based practice of intravenous thiamine prescription: a case series

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Introduction and objectives

Intravenous thiamine prescription in clinical settings is common among patients admitted with medical illnesses. These case histories aim to highlight the cost-effective use of intravenous thiamin according to scientific evidence.

Clinical Case

A 64-year-old gentleman with chronic liver disease was admitted with encephalopathy. By second day, the cause of encephalopathy was undetermined. He had a stable weight and was at risk of malnutrition. Further, he did not have ophthalmoplegia and was abstaining from alcohol for the past six months.

A 45-year-old gentleman was admitted with chronic inflammatory diarrhoea for six weeks. He is a teetotaler and had moderate malnutrition. He did not have features of thiamine deficiency.

A 35-year-old male was managed for alcohol withdrawal and compensated cirrhosis. His BMI was 20.3kgm² and had significant weight loss over a month making him severely malnourished.

Management

Above three patients were started on intravenous thiamine 100mg twice a day for a period of three to five days. Suboptimal dose in the first case did not help in recovery of the patient. Intravenous thiamin administration helped in correction of micronutrients of the second patient with chronic diarrhoea and in the third case of alcohol withdrawal together with severe malnutrition. But in later case oral thiamin was started early which is less costly.

Cost of intravenous thiamin per person per day is Rs.2070/-. Recently published nutrition guidelines have changed the dose, frequency and duration of thiamine for the above conditions while the indications remain unchanged.

Conclusion

Practice timely evidence-based indications of intravenous thiamine and prescription of correct dose, frequency and duration of medication in clinical setup is necessary. In an economically challenging era protocols and periodic audits will be helpful.

Keywords

thiamine, malnutrition, cost-effectiveness analysis

PP 39 - Nutrition therapy as an integral part of perioperative liver transplant care- case report

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Introduction and Objective

The provision of optimal nutritional support is mandatory in all phases of liver transplantation.

We report challenges in the perioperative nutritional management of a post-cadaveric liver transplant recipient.

Clinical history

A 46-year-old gentleman with child C cirrhosis, presented with recurrent episodes of decompensation, dyslipidemia, and adrenal insufficiency with symptomatic hyponatremia.

Nutrition evaluation at the referral to transplant revealed an oedema-free BMI of 19.4kgm² which was optimized to 23.1kgm² with medical nutrition therapy. On index admission, he presented with decompensation, causing a reduction in food intake to 70% of his previous intake and weight reduction by 10% in the fortnight leading to moderate malnutrition.

Management

Preoperatively, during decompensation, nutritional support was commenced with small frequent meals, gradually providing energy and protein at 30kcal/kg/d and 1.5g/kg/d, respectively.

Following the liver transplant, an oral diet was commenced. After one week, the patient had an unforeseen neurological complication and was re-intubated requiring enteral feeding. Initial postoperative period, with the clinical complications mid-upper arm circumference (MUAC) reduced to a minimum of 20.3cm.

Revision of the nutritional plan, increased energy to 30kcal/kg/d and protein to 1.5g/kg/d over a period of four weeks increased the MUAC to 22.5cm.

Gastrostomy was inserted at 4 weeks. Recommended dietary allowance of micronutrients and oral iron treatment was provided. Currently, the patient is clinically improving and receives ward care.

Conclusion

Nutritional status can deteriorate at any point in the perioperative period of liver transplantation.

Preoperative nutrition optimization and individualized approach in medical nutritional therapy adjusted for challenging clinical conditions provide better outcomes in liver transplantation.

Keywords

liver transplant, perioperative nutrition, gastrostomy

PP 40 - The crucial role of clinical suspicion and nutrition therapy in the management of Wernicke's Encephalopathy: A case report

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Introduction and objective

Wernicke's encephalopathy (WE) is an acute neuropsychiatric disease caused by thiamine deficiency while chronic deficiency leads to Korsakoff syndrome (KS). The classical triad of confusion, ataxia, and ophthalmoplegia, is only seen in 16% of patients with WE. A high index of suspicion is required in the identification of early nonspecific symptoms to prevent the development of WE and KS. We present a case of WE with the classical triad, with a recent history of pancreatitis and confusion, which was managed successfully.

Clinical presentation

A 53-year-old male patient with chronic unsafe alcohol consumption recently managed for acute severe pancreatitis along with intermittent confusion which was managed as hyponatremia, was readmitted with persistent intermittent confusion and reduced oral intake without precedent fever or headache. Nutritionally, he was severely malnourished with anaemia.

On index admission, examination revealed confusion, external ophthalmoplegia, nystagmus, and ataxia.

Initial lab investigations were unremarkable including normal sodium levels, computed tomography, and non-contrast magnetic resonant imaging of the brain.

Management

With his background history of chronic alcohol consumption, recent prolonged hospital stays, and clinical findings, a diagnosis of WE was considered, and started on a therapeutic dose of intravenous (IV) thiamine 500mg thrice a day for three days followed by 250mg daily for 5 days. Simultaneously, medical nutrition therapy was commenced considering refeeding syndrome. He made an uneventful recovery with a therapeutic thiamine dose and nutrition therapy.

Conclusion

WE is a highly underdiagnosed, reversible, treatable illness. A high index of suspicion is required for the diagnosis of WE. Clinical signs should be a guide for the diagnosis and management. All patients with malnutrition, chronic unsafe alcohol consumption, and chronic illnesses should be suspected of thiamine deficiency and treated to prevent the development of WE and KS.

Keywords

Wernicke's encephalopathy, high index of suspicion, clinical diagnosis, therapeutic dose of IV thiamine.

PP 41 - A patient with Vitamin B12 deficiency in an 80 year-old vegan with neurological symptoms

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Introduction & Objective

Vitamin B12 is a water-soluble vitamin present in animal products. Isolated Vitamin B12 deficiency is not commonly reported as people get the requirements through animal or dairy products. It may manifest as neurological, gastrointestinal, hematological, dermatological or with a mixed picture. This case study was done to review the clinical profile and management of a vegan with vitamin B12 deficiency.

Clinical presentation

Mrs. X, an 80-year-old previously healthy lady presented with bilateral lower limb weakness progressing over one week. There was no associated sensory or autonomic involvement. She had developed memory loss and acute confusion on the day before admission. She did not have any feature of urinary or respiratory tract infections. There had been pain in small joints. Apart from mild conjunctival pallor, she did not have other anaemic features. She had been a vegetarian for 30 years and had given up milk intake for 2 years. She had not undergone any gastrointestinal surgeries. She had alopecia, thinning of hair, and mild jaundice. There were bilateral hyperpigmented skin lesions over lower limb. Her haemoglobin level was 10.1g/dl with MCV and RDW being 101fL and 14% respectively. Blood picture revealed megaloblastic cells with hyper-segmented neutrophils suggesting the possibility of B12 with or without folic acid deficiency.

Management

She was treated with six intramuscular B12 injections every other day followed by monthly B12 injections plus folic acid 1mg daily. Her neurological symptoms gradually improved with this management.

Conclusions

The possibility of B12 deficiency among vegans must not be overlooked. A proper dietary assessment must be encouraged as part of the clinical history taking. Keywords: Vitamin B12 deficiency; vegan; neurological symptoms; Vitamin B12 injections; dietary assessment

Keywords

B12 Deficiency, neurological symptoms

PP 42 - A case report on misplacement of enteral tube feeding following laparotomy in an eight-year-old boy: lessons learnt

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Introduction

Nasogastric (NG) tube placement in paediatric age group, considered a simple bedside procedure comes with potential risk of misplacement while insertion and daily management. Confirming correct placement of NG-tube using chest X ray as gold-standard method is crucial following insertion.

Clinical presentation

Eight-year-old previously healthy boy following accidental blunt trauma to abdomen, underwent emergency laparotomy, where complete transection of first part of duodenum, hematoma around pancreas and peritoneal fluid with gastric contents were noted. Total duodenectomy with side-to-side gastrojejunostomy was performed and NG, duodenostomy, and lesser sac drains were kept in situ.

Management

The child was post-operatively managed in intensive care unit. BMI for age was between median to -2SD. Total parenteral nutrition (TPN) was initiated on day 1 with close monitoring of vital parameters and drains' output. Post-operatively the child was started on intra-venous octreotide. Post-operative complications such as basal atelectasis, and electrolyte imbalances were managed symptomatically. While the drain output gradually declined, the NG tube output persisted with bilious drainage, delaying initiation of enteral nutrition. On post-operative D₁₁, a chest radiograph done to evaluate lung collapse demonstrated that NG tube was placed further down in jejunum. NG tube was pulled up by 1 inch and the NG output was reduced thereafter. Following this, the child was gradually started on enteral nutrition while weaning off TPN. The child recovered completely and was discharged on D₁₈.

Conclusion

Confirmation of correct placement of NG-tube after insertion and before each feed in paediatric age group is critical in overall patient care and nutritional management.

Keywords

NG tube, gastrojejunostomy, enteral nutrition

PP 43 - Management of a patient with high output stoma in surgical intensive care unit of National Hospital of Sri Lanka

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Introduction

About 31% small bowel stomas are associated with a high output(>1500ml/day). The management is aimed at avoiding dehydration, hypotension, acute renal failure, electrolyte imbalances and malnutrition. This is a case report of successful management of fluids, electrolytes and nutrition at surgical ICU.

Clinical presentation

A 27-year-old male presented with an acute abdomen with a recent history of right hemicolectomy and exploratory laparotomy. The patient underwent emergency laparotomy for features of bowel obstruction and distal small bowel obstruction with extensive adhesions were identified. A de-functioning small bowel stoma was created with uncertain anatomy of the small bowel. His Body Mass Index was 23kg/m². At the SICU on first post-operative day the stoma output was 2050ml. He developed hypotension, reduced urine output, rising serum creatinine from 0.5mg/dl to 1mg/dl over 48hours, hypokalemia(2.5mmol/L), hyponatremia(133mmol/L) and hypomagnesemia(1.6mg/dl) indicating the massive electrolyte and fluid losses.

Management

Inotropes started and intravenous fluid resuscitation was done considering deficit, maintenance, and ongoing losses. Isotonic St. Mark's Solution was recommended as the oral fluid with restriction of free water. Electrolyte losses through stoma were estimated and replaced in enteral and parenteral routes. Total parenteral nutrition was initiated. Oral and intravenous micronutrients were supplemented according to their availability. Pharmacotherapy was initiated to reduce the stoma output. Pantoprazole 40mg 12 hourly, octreotide 50mcg 8 hourly, and loperamide 2mg 8 hourly were started and doses were adjusted according to the patient's response. By postoperative day 03 stoma output was reduced up to 750ml with normal hemodynamic parameters and electrolytes and transferred for inward care.

Conclusion

Aggressive management of fluids, electrolytes, pharmacotherapy, and nutrition can reduce ICU stay and morbidity.

Keywords

High output stoma, fluid management, electrolyte abnormalities

PP 44 - Simultaneous antisecretory and antimotility pharmacotherapy in managing a patient presenting with high ileostomy output

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Introduction

Creation of an ileostomy is required in management of variety of pathological conditions, including gastrointestinal malignancy. High ileostomy output, which is defined as effluent exceeding 1500 ml per day is a known major complication.

Clinical presentation

A 34-year-old female with a first-degree family history of Familial Adenomatous Polyposis was diagnosed to have rectal adenocarcinoma one year ago. Subsequent to neo-adjuvant chemotherapy and radiotherapy, she had undergone total proctocolectomy and loop ileostomy four months ago. Post-surgical recovery was uneventful and she underwent two cycles of chemotherapy. Following a high ileostomy output exceeding 6000 ml per day, the patient was admitted to Colombo South Teaching Hospital. The patient was diagnosed with severe malnutrition (GLIM stage II), suggested by 20% weight loss for last three months, a BMI of 14.15 kg/m² with < 50% energy intake for last one week.

Management

Patient was kept nil by mouth and was started on Total Parenteral Nutrition (TPN). Intravenous proton pump inhibitors and H₂ receptor antagonists were commenced. Oral Loperamide was started and gradually increased to a total daily dose of 64mg due to insufficient response. Subsequently, subcutaneous Octreotide 100 mcg three times daily was commenced simultaneously with loperamide due to unsatisfactory reduction of effluent, which led to normalization of ileostomy output. Continuous polymeric enteral feeds were restarted with therapeutic nutritional formula which was gradually converted to solid oral feeds with the normalization of ileostomy output.

Conclusions

Simultaneous antisecretory and antimotility pharmacotherapy has a major role in managing high-output ileostomy in addition to specific nutritional management.

Keywords

high output, ileostomy, pharmacotherapy, nutrition, rectal carcinoma

PP 45 - Management of a child with cerebral palsy on gastrostomy feeding complicated with severe acute malnutrition

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Introduction and Objective

Cerebral palsy (CP) is associated with frequent gastrointestinal problems leading to malnutrition. Gastrostomy feeding is used for long term nutritional support in patients with CP. We report a child who is severely malnourished with CP on gastrostomy feeding presented with complications and underwent successful nutritional management and rehabilitation.

Clinical presentation

5 1/2 years old boy with dystonic CP presented with 5-month history of vomiting and increased dystonia while on gastrostomy feeding. Gastrostomy tube was inserted 3 1/2 years back and reinsertion done multiple times due to accidental tube removal. Symptoms were noted after the recent reinsertion 5 months back and as a result child's nutrition intake was suboptimal.

On admission, child was dehydrated, emaciated with subcutaneous fat and muscle loss. His weight, length and BMI was <-3SD for age. MUAC was 10cm indicating severe malnutrition. Basic investigations done serum electrolytes were found to be low.

Management

On admission child was resuscitated with intravenous fluid. Further evaluation suggested gastric outlet obstruction due to gastrostomy tube migration. Gastrostomy replacement catheter was removed and foley catheter was inserted. Due to significant risk for refeeding syndrome, feeding was commenced with 40kcal/kg/day of energy using therapeutic formula. Micronutrient supplementation including thiamin and phosphate solution was given. Child was able to tolerate the feeds and nutrient delivery was gradually increased. On discharge, mother was advised regarding proper tube care.

Conclusion

Proper tube care is an important part of gastrostomy feeding and if neglected may lead to serious and chronic complications. Therefore, educating the caregiver is of utmost importance.

Keywords

Cerebral palsy, gastrostomy feeding, Severe acute malnutrition

PP 46 - Fistuloclysis and chyme reinfusion therapy in management of a type 2 intestinal failure patient with short gut and high output proximal stoma

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Introduction and objective

Fistuloclysis and chyme reinfusion are recognized modes of feeding in intestinal failure patients with proximal high output stoma, by which parenteral nutrition support can be minimized.

Clinical presentation

A 30-year-old male with double barrel stoma, proximal jejunostomy with 40cm residual jejunum, and distal ileostomy, presented with reduced urine output (0.2ml/kg/d) and high (1800ml/24h) stoma output. Stoma created following anastomotic leak repair secondary to mid ilial perforation surgery. He was dehydrated, BMI was 14.4kgm⁻² with 26% weight loss over 2 months following surgery. Investigations revealed high serum creatinine with marginal hyperkalaemia and hyponatraemia.

Management

Pre-renal acute kidney injury was managed with fluid resuscitation. Stoma output was controlled by restricting hypotonic fluids and introducing St. Mark's solution, together with anti-motility and anti-secretory drugs.

Nutritional targets were initially achieved with total parenteral nutrition. Fistuloclysis and chyme reinfusion were started following confirmation of distal bowel integrity and adequacy of length, through foley catheter inserted into the distal ilial stoma with chyme as collected and semi-elemental formula as hourly feeds. Oral feeds started with polymeric formula and gradually changed to complex carbohydrates, low fiber and medium-chain-triglyceride rich small frequent meals as tolerable.

With the fistuloclysis, chyme reinfusion, and oral feeds, parenteral nutrition was tailed off to minimal levels while maintaining nutritional status until reversal of double barrel stoma surgery. 3 months following stoma reversal patient was well tolerating normal oral feeds with normal bowel habits and showed 5kg weight gain.

Conclusion

Fistuloclysis and chyme reinfusion are an effective mode of feeding which can be practiced in in-ward setting to deliver nutrition while reducing the risk of parenteral nutrition associated complications and health cost until the corrective surgery is performed.

Keywords

intestinal failure, fistuloclysis, chyme reinfusion therapy, short gut, high output stoma

PP 47 - Adaptation of low FODMAP diet to Sri Lankan setting to relieve gastrointestinal symptoms in a patient with Crohn's disease in remission

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Introduction and objective

Crohn's disease is a remitting and relapsing disease with associated functional gastrointestinal (GI) symptoms affecting quality of life of patients even during remission. Fermentable Oligosaccharides, Disaccharides, Monosaccharides and Polyols (FODMAP) in the diet can induce bloating, flatulence and discomfort.

The objective of this case report is to emphasize the possibility of using a diet low in FODMAPs; adopted to a Sri Lankan setting to relieve GI symptoms.

Clinical presentation:

25-year-old female with Crohn's disease in remission presented with bloating, flatulence, and abdominal discomfort for two months. She was avoiding dairy products for symptom relief. Her bowel habits were normal and active Crohn's disease and acute malnutrition was excluded.

Management

Diet was assessed with a 24-hour dietary recall and a food frequency questionnaire. FODMAPs in diet were identified and a personalized low FODMAP diet with a FODMAP content of less than 0.5g per meal was introduced considering patients preferences. Gastrointestinal Symptom Rating Scale (GSRS) was used to assess the response to diet. The Short Inflammatory Bowel Disease Questionnaire (SIBDQ) was used to assess quality of life.

GI symptoms and quality of life were improved according to GSRS and SIBDQ values respectively; assessed one month apart. Gradual FODMAP reintroduction was done and patient was empowered to modify the diet according to the tolerance.

Conclusions

A low FODMAP diet adopted for Sri Lankan cuisine can be used successfully in patients with Crohn's disease in remission whose quality of life is negatively affected with functional GI symptoms.

Keywords

Low FODMAP diet, Crohn's disease, Gastrointestinal symptoms, quality of life, Sri Lankan cuisine

P 48 - Management of vitamin A deficiency in a patient with kwashiorkor and chronic pancreatitis

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Introduction and Objectives

Vitamin A deficiency results from either inadequate dietary intake or malabsorption syndromes and it is exacerbated by high rates of infections. The global rate of vitamin A deficiency has been reported between 1% and 16% in studies on chronic pancreatitis. We report a case of kwashiorkor with vitamin A deficiency secondary to chronic pancreatitis

Clinical Presentation

A 42 years old male with a one-year history of chronic pancreatitis presented with loss of appetite for the last 1-month period and subjective weight loss for the last 6 months period. He also had a history of steatorrhea and bloating for 3 months duration and fatigability and weakness for the last 2 months. He had gradually worsening night blindness which was initially noted 2 months back. He has been a heavy alcoholic for the last 20-year period. Due to loss of appetite, malabsorptive symptoms, alcoholism, and poor socioeconomic status, he was on a low-calorie, protein, and micronutrient diet. His BMI is 16.5kg/m² and had generalized muscle wasting. He had a bitot spot on the right-side eye and dry and scaly skin. He had low hemoglobin, serum potassium, Phosphate, Magnesium, and Albumin levels.

Management

Due to severe refeeding risk, started with low-calorie 10kcal/ kg/Day and protein 1.0g/kg/Day under the cover of intravenous Thiamin and replaced the serum electrolytes to prevent the refeeding syndrome. The diagnosis of vitamin A deficiency was made by clinical findings and treated with vitamin A 200,000 international units orally (as intramuscular preparations are not available in Sri Lanka) immediately upon diagnosis, the second day, and the third dose two weeks later.

Conclusion

Vitamin A deficiency is rare among other fat-soluble vitamin deficiencies in chronic pancreatitis. Although it should be easily detected early stage by nutrition-oriented history taking and physical examination and can prevent permanent loss of vision by vitamin A supplements.

Keywords

Vitamin A deficiency, Kwashiorkor, chronic pancreatitis

P 49 - A case of Biotinidase deficiency presented with refractory convulsions

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Introduction and Objectives

Biotinidase deficiency is an autosomal recessively inherited disorder characterized by developmental delay, seizures, hypotonia, ataxia, skin rash, alopecia, visual problem/optic atrophy, and metabolic acidosis. Delayed diagnosis may lead to irreversible neurological damage.

Clinical presentation

A boy aged 2 1/2 months old, first child of consanguineous parents presented with recurrent generalized tonic clonic convulsions which were persistent and resistant to antiepileptics and antibiotics. He had an uneventful antenatal period and was delivered at POA of 34 weeks. Birth weight was 2.1 kg. He had hypotonia, drowsiness, poor feeding due to ineffective sucking and swallowing difficulty. Global development delay was noted while Weight for height was on median. There was skin rash in perineum, buttock progress to face and back with epidermolysis and alopecia. MRI brain favours early changes of clinically suspected biotinidase deficiency. Urine organic acids were markedly elevated. Biotinidase enzyme activity -15.84 U (Normal > 40U).

Management

Biotin 10mg daily was started while anti-convulsant were gradually tailed off. The response to therapy was immediate with marked improvement in neurological and dermatological signs. Feeding was initially done via nasogastric tube with expressed breast milk. Oral feeding started after 1 month of treatment. After child completed 4 months of age Complementary feeding advice were given on oral feeding, while specifying food rich in biotin like sweet potato, avocado, spinach, and eggs.

Conclusion

Biotinidase deficiency is treated with oral biotin supplements. Treatment should begin with early suspicion and diagnosis is made. With biotin treatment, symptoms of the disorder may disappear.

Keywords

Biotinidase deficiency, Biotin, Refractory seizures, poor feeding.

PP 50 - Successful reduction of postpartum weight retention by lifestyle modifications

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Introduction and Objectives

Postpartum weight retention has contributed to obesity and overweight which leads to non-communicable diseases among females of reproductive age. Optimal nutritional requirement should be offered while avoiding excessive post-partum weight retention.

Clinical Presentation

Twenty-eight years old lady presented to postnatal clinic one month after delivery. She had a history of obesity with primary subfertility for three years. She has achieved a pre-pregnant body mass index of 29kgm^{-2} . She had pregnancy weight gain of 10kg and had lost only 1kg after delivery. Her current body weight is 97kg with BMI of 36kgm^{-2} .

On investigation she was found to have impaired fasting blood sugar and stage one fatty liver.

Management

A reduced energy diet with 500Kcal per day deficit of recommended dietary allowance for age and sex was calculated and extra 300 Kcal was added for energy consumption in exclusive feeding. Energy target was 1800 Kcal per day and 55% of energy was given from complex carbohydrates. protein target was 75g per day with an additional 19g of protein for RDA. One meal was replaced with a commercial meal replacement. Being physically active in daily routines was encouraged. Exclusive breastfeeding continued, and the weight gain of the baby was satisfactory.

By two months she was able to lose 10% of excess body weight. Her fasting blood sugar level was normalized.

Conclusions

Comprehensive lifestyle modifications during the initial period of exclusive breastfeeding while providing additional nutritional requirement of lactation would successfully reduce post-partum weight retention.

Keywords

Postpartum, weight, lifestyle

PP 51 - A successful improvement of a patient with Pickwick syndrome through nutritional management and weight reduction

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Introduction and Objectives

Pickwick syndrome (Obesity Hypoventilation Syndrome), is a relatively underdiagnosed disorder marked by obesity and chronic hypoventilation. Treating it requires a comprehensive, multidisciplinary approach that emphasizes nutritional intervention for weight reduction and improved dietary quality. Physical activity also plays a key role, and this report provides valuable insights and guidance for healthcare professionals dealing with similar cases.

Clinical Presentation

A 28-year-old female with a BMI of 33 kg/m² presented symptoms of excessive daytime sleepiness, fatigue, shortness of breath, exertional dyspnea, lower limb swelling, orthopnea, and paroxysmal nocturnal dyspnea, with respiratory failure and pulmonary hypertension. Evaluation revealed dyslipidemia and hypertension. She was diagnosed with stage 4 Pickwick syndrome based on clinical evaluation, arterial Blood Gas, and polysomnography findings: pH 7.37, pCO₂ 94.8mmHg, pO₂ 78mmHg, HCO₃ 55.3 mmol/L. Nutritional assessment showed high-calorie, carb-heavy diet, insufficient protein, excessive salt, low vegetable and fruit intake.

Management and Outcome

The acute phase-maintained oxygen saturation above 92%, controlled blood pressure, and prevented complications. Discharge included medications, weight reduction plan with calorie restriction, increased protein, less carbohydrates and salt, more fruits and vegetables. Gradual exercise plan was implemented. Patient improved with resolved symptoms and signs, and normalized blood gas. 10% weight loss in 3 months showed a positive response.

Conclusion:

This report showcases successful acute and long-term management of obesity hypoventilation syndrome. Multidisciplinary approach involving respiratory support, pharmacotherapy, nutrition, and follow-up achieved favourable outcomes. Highlights importance of early diagnosis, evaluation, and tailored treatment. More research is needed to enhance management for better outcomes, quality of life.

Keywords

Obesity hypoventilation syndrome, Pickwick Syndrome, Medical nutrition therapy

PP 52 - Nutritional management of a severely malnourished patient diagnosed with Wilson disease

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Introduction

Wilson disease (WD) is an inherited disorder of copper excretion due to an ATP7B gene mutation. Neurological manifestations are due to copper accumulation in cerebral tissues including the brainstem, which may lead to dysphagia. However, malnutrition is uncommon. The mainstay of management is copper chelation, and a low-copper diet is recommended. This is a case report which shows the successful management of severe malnutrition in a patient with Wilson disease complicated with dysphagia.

Clinical presentation

A 17-year-old girl presented with wing-beating tremor for one year and recent onset difficulty in swallowing. She was severely malnourished with a BMI of 13kg/m² and severe generalized fat and muscle wasting. Dietary history revealed inadequate food intake (<500kcal/day) for the past month. A diagnosis of neuro-Wilson disease was made, supported by the presence of Kayser-Fleischer rings, low ceruloplasmin, and brain MRI findings, without evidence of liver dysfunction.

Management

As she was at risk of refeeding syndrome, thiamine levels and electrolytes were optimized prior to initiating feeding. Nasogastric feeding was started with 50% of the total calorie requirement. A target energy intake of 40kcal/kg/day and protein intake of 1.2g/kg/day was reached within 5 days. Penicillamine and zinc sulphate were initiated as disease modifying therapy. Foods with low copper were included in the diet. A weight gain of 500g was achieved in one week. Energy targets were increased subsequently, and swallowing assessments were performed to start oral feeds.

Conclusion

Dysphagia is a neurological complication of Wilson disease, which can lead to malnutrition. Malnutrition can be effectively treated with low copper, high energy, high protein enteral diet. However, restarting oral feeding should be done after objective assessment of swallowing ability.

Keywords

Wilson's disease, Swallowing dysfunction, low copper diet.

PP 53 - Nutritional management of a patient with Vitamin B12 and Niacin deficiency (Pellagra) secondary to chronic alcoholism, anti-tuberculosis treatment, and dietary insufficiency

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Introduction and Objective

Multiple micronutrient deficiency results secondary to chronic alcoholism, dietary insufficiency and medications. Among those, Pellagra can present with characteristic dermatitis, diarrhea and dementia while Vitamin B12 deficiency can present as neurological and hematological manifestations. This case report highlights the nutritional management and secondary prevention of a severely malnourished patient with Vitamin B12 and Niacin deficiency.

Clinical presentation

A 46-year-old gentleman who had tuberculosis (treatment completed), presented with gradual onset weakness and numbness of bilateral lower limbs, unsteady gait, and memory impairment. He also consumed about 42g of alcohol daily for 20 years. His diet was hypocaloric and inadequate with protein, fruits and vegetables. Clinical examination revealed symmetrical hyperpigmented well-demarcated dry scaly lesions over sun-exposed areas of face, neck and all limbs, glossitis and angular stomatitis. His Body Mass Index was 16kg/m². There are signs suggestive of subacute combined degeneration including sensory impairment below T1 level.

Management

Administration of intramuscular vitamin B12 1000µg every other day for two weeks, then weekly for four weeks. Due to unavailability of nicotinamide as a single medication, we used combined multivitamin preparations providing nicotinamide 100mg three times daily. Energy goal of 40kcal/kg/day and a protein of 1.2g/kg/day was achieved progressively. Relevant referrals were done for optimization of lifestyle and psycho-social problems. After next three months, dermatitis showed complete and sensory impairment showed partial recovery.

Conclusion

Combination of timely diagnosis, optimal nutritional management, and lifestyle modification show satisfactory outcome in Niacin and Vitamin B12 deficiency with a background of prior anti-tuberculosis treatment.

Keywords

Pellagra, Vitamin B 12 deficiency, Niacin

PP 54 - Nutritional management of a patient at risk of refeeding syndrome with systemic sclerosis

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Introduction and objectives

The majority of systemic sclerosis patients have gastrointestinal tract involvement. Oesophagus is the most commonly affected site and abnormal intestinal function occurs in 20-60% patients leading to malabsorption. Risk of getting refeeding syndrome is high in these patients. The objective of this study is to emphasize the importance of early identification and careful monitoring of high-risk patients with refeeding syndrome.

Clinical presentation

A 67-year-old, patient with systemic sclerosis, presented with chronic productive cough for 3 weeks, exertional dyspnea progressive over 1 year. She had early satiety, abdominal bloating, intermittent constipation which reduced her food intake with poor socioeconomic state. She had dysphagia one year ago, which improved after treating oesophageal candidiasis. She had no loss of appetite.

On examination, her weight was 22 kg, height 156 cm, BMI 9.0 kg/m², MUAC 13.5 cm, calf circumference 16.5 cm, emaciated, mild pallor, moderate alopecia, glossitis, small muscle wasting of hands, dactylitis, speckled rash over back of neck. No ankle oedema.

Management

After admission hydration status, serum electrolytes, calcium, magnesium, phosphate were assessed and deficits were corrected (s. phosphate 2.3mg/dl, normal 2.8 to 4.5 mg/dl). Her phosphate deficits corrected with Joul's solution. Intravenous Thiamine 200mg stat and 100mg bd were started before start feeding along with micronutrient supplementation. Energy intake started from her current energy intake (30 kcal/kg/d) and gradually increased to 60 kcal/kg/d within 10 days. She was given high energy small frequent feeds. Her weight, input-output, temperature, glucose, and electrolytes were monitored. She achieved 1 kg over 1 month.

Conclusion

We can successfully manage refeeding syndrome even in severely malnourished patients by risk assessment, early identification, and close monitoring. We should be more aware of the lower gastrointestinal involvement in patients with connective tissue disorders including systemic sclerosis.

Keywords

Refeeding syndrome, Systemic sclerosis

PP 55 - Nutritional management of a child presented with acute decompensated propionic acidemia

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Introduction

Propionic acidemia (PA) is a disorder of inborn error of metabolism caused by deficiency in propionyl-CoA carboxylase enzyme used in amino acid, cholesterol side chains, odd chain fatty acids, and free propionate catabolism pathways. It is a rare autosomal recessive defect with a detection rate of 0.09 to 5.05 per 100,000 live births in the Asia Pacific region.

Clinical presentation

Ten and half month-old baby girl born to first-degree consanguineous parents was diagnosed to have PA. She had a stormy neonatal period with ICU admissions. She showed growth faltering, moderate acute malnutrition, development regression, and recurrent hospitalizations. In current admission, she presented with lower respiratory tract infections (LRTI), epileptic encephalopathy, and decompensated PA.

Management

Multidisciplinary team management was essential. Main aim of nutritional management was to prevent propionate accumulation. Acute management included complete protein restriction and supply energy in the form of IV dextrose to prevent muscle catabolism and fat oxidation. In long-term management, proteins were reintroduced to the safe level. Therapeutic regime of cofactors for organic acid metabolism was continued with increased carnitine dose to enhance removal as propyl carnitine in urine. Follow up plan was set to monitor growth and development.

Discussion and conclusion

Proper nutritional management is one of the key factors to prevent the complications of PA. Main goals of management are, reduction of precursors of propionyl-CoA, prevent secondary carnitine deficiency, reduction of gut flora bacteria, and overcoming feeding difficulties. The unavailability of specifically formulated food preparations in the country make it challenging to restrict proteins. However, introduction of locally obtainable protein exchange foods is helpful to overcome this problem to a certain level.

Keywords

Nutritional management, propionic acidemia, inborn errors

PP 56 - Nutritional management in a patient suspected with valproate induced hyperammonemic encephalopathy (VHE)

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Introduction & Objective

VHE is an unusual complication of acute overdose or chronic use of valproate, which leads to reduced level of consciousness, focal neurological deficits, drowsiness, lethargy and vomiting. Protein restriction during the acute period is recommended to reduce blood ammonia levels. We report a case of suspected VHE managed in a tertiary care hospital.

Clinical presentation

37 year old female, with schizoaffective disorder and epilepsy on over the counter medication with sodium valproate for 5 years, presented with vomiting, nausea, and confusion for 2 weeks.

On examination her GCS was 14/15 and had no focal neurological deficits. She had normal nutritional status. Investigations revealed hypernatremia, hypokalemia, hypocalcemia, high anion gap-metabolic acidosis, high aminotransferases favoring (chronic) valproate toxicity. Blood sugar levels were normal. Blood levels of sodium valproate, ammonia, and amino acids were not done due to unavailability of testing facilities.

Management

A multidisciplinary team management done and decided to restrict dietary protein to reduce ammonia load.

25 kcal/kg/d of energy delivered enterally with modified macronutrient composition (carbohydrates - 75%, lipids - 25%) including plant based complex carbohydrates and plant oils, completely restricting high bioavailable animal proteins. Protein delivery was minimal (~0.2g/kg/d of plant proteins). A colonic laxative was added. With clinical improvement in first 72 hours, gradually protein was increased to 0.8-1g/kg/d while monitoring clinical (mid-upper arm circumference, hand grip strength) and biochemical parameters.

Conclusion

Modified macronutrient composition of enteral nutrition with protein restriction is the mainstay in nutritional management of acute VHE.

Keywords

Valproate induced hyperammonemic encephalopathy

PP 57 - Nutritional management of a child with early percutaneous gastrostomy tube leaking

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Introduction

Percutaneous endoscopic gastrostomy (PEG) provides a route for long-term enteral feeding. Peristomal leakage may occur within the first few days after gastrostomy tube placement. Optimum nutrition should be provided to enhance wound healing to prevent peristomal leakage-associated morbidity.

Clinical presentation

A 6-year-old boy with spastic quadriplegic cerebral palsy and feeding difficulty with evidence of micro aspirations underwent uneventful PEG tube insertion for long-term feeding access. On day 4 child developed pus discharge, skin excoriation and leaking of the PEG tube. There was persistent peristomal leakage compromising feeding of the child leading to malnutrition.

Management

Initial management included IV fluids and broad-spectrum antibiotics. Enteral feeding was withheld and Nutrition therapy was delivered parenterally via central venous catheter into internal jugular vein. Total parenteral nutrition regimen started with 50 kcal/kg/d energy and 1 g/kg/d protein to prevent refeeding syndrome. Serum electrolytes were monitored and replaced accordingly. IV thiamine 2 mg/Kg /day started. Energy and protein targets were further increased to 75 kcal/kg/d and 2g/kg/d respectively over five days. Micronutrients were provided as multivitamin syrup 2.5 ml qds. Zinc sulfate 10 mg daily, vitamin D drops 0.5 ml bd. After 10 days wound was healed and peristomal leakage was stopped. Parenteral nutrition was tailed off while gradually increasing enteral nutrition.

Conclusion

Malnutrition is an important risk factor for poor wound healing in a neurologically disabled child. When enteral nutrition is compromised due to leaking PEG total Parenteral nutrition should delivered to achieve nutritional needs of the patient.

Keywords

Peristomal leakage, parenteral nutrition, Percutaneous endoscopic gastrostomy

PP 58 - Successful jejunal feeding via bedside placement of naso-jejunal tube in a child with acute pancreatitis

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Introduction and objectives

Pancreatitis is a disease with significant metabolic demand and, often needs robust nutrition interventions. Post pyloric feeding is a recognize mode of enteral feeding when gastric intolerances are noted. However, placement of nasojejunal (NJ) tube is often delayed due to need of advance radiology or endoscopic guidance leading to unwarranted use of parenteral nutrition. This case describes a successful use of bedside maneuver for the placement of NJ tube which could be used in resource limited settings.

Case presentation

A 5-year-old girl presented with acute pancreatitis (Serum amylase 625U/L) and severe acute malnutrition in the background of pancreatitis and poor intake. Concurrently with the medical management nutrition therapy was initiate within 24 hrs. However, she was unable to tolerate adequate oral feeds or supplements due to abdominal pain, disease related anorexia, and reflux.

Management

NJ tube was inserted with use of a modified “Corpak” 10 10 10 protocols practiced in adults.

The original maneuver was to administer 10mg metoclopramide, and 10 minutes later insert the NJ tube up to the stomach. After verifying the placement, 10 ml of normal saline was injected via the tube. Next, the tube was slowly pushed down in 5cm increments. The depth of the tube was adjusted by feeling the change in resistance. Here Domperidone 2.5mg intra-venous was used instead of metoclopramide. Successful placement was confirmed radiologically. Child was fed via NJ tube intermittently using an infusion pump, had no abdominal pain, and recovered gradually.

Conclusion

Blind bedside placement of NJ tube is a simple, practical, and cost-effective alternative to technically advanced NJ tube placement methods, in the local hospital setting.

Keywords

Naso-jejunal tube, Bed side technique

PP 59 - Clostridium difficile infection as a challenge for nutrition therapy following laparoscopic mini gastric bypass: A case report

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Introduction

Clostridium Difficile Infection (CDI) is a potentially serious complication following Laparoscopic Mini Gastric Bypass (LMGB). But the data regarding CDI, and LMGB are scarce.

We report a successfully managed patient after developing CDI in post-LMGB.

Clinical presentation

A 34-year-old male underwent bariatric surgery for class 2 obesity (Weight 107kg) with severe debilitating osteoarthritis. Within 90 days post-surgery he lost 93% of excess weight and the process was complicated by recurrent vomiting and abdominal discomfort, limiting oral intake. He was treated symptomatically for three months. After 2 months, he presented with an increased frequency of loose stools >10 times per day without fever and had lost 140% (BMI-19.7) of excess weight leading to severe malnutrition and iron deficiency anemia. Both Upper and Lower gastrointestinal endoscopies were normal, but both C. difficile antigen and C. difficile toxin A were positive in the stool.

Management

Medical nutritional therapy was initiated, providing energy of 40 kcal/kg/day and protein of 1.2g/kg/day (70 g) respectively, from small frequent meals. Vitamin D 2000 IU, elemental iron 60 mg, and calcium 1200 mg, with one recommended allowance of other micronutrients daily. Oral vancomycin is the first-line treatment for CDI. Due to its unavailability, treated with oral metronidazole and diarrhea settled. He gained weight and recovered from severe malnutrition, consuming a food-based energy-dense diet. Repeat C. difficile Antigen and toxins became negative.

Conclusion

Clostridium Difficile Infection should be suspected especially in high-risk patients with diarrhea following bariatric surgery. Early diagnosis and treatment are mandatory to prevent malnutrition.

Keywords

bariatric surgery, malnutrition, clostridium difficile infection.

PP 60 - Struggle in the provision of micronutrients to a patient with gastric outlet obstruction on prolonged parenteral nutrition

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Introduction and Objective

Gastric Outlet Obstruction (GOO) is a mechanical impediment to gastric emptying. Distal enteral feed is preferred over Parenteral Nutrition (PN) unless enteral access is inaccessible. Special attention should be given to micronutrient supplementation during PN. This aims to describe challenges during prolonged parenteral nutrition, in GOO.

Clinical presentation

53-year-old male, presented with progressive vomiting for 3 months with elicitable succussion splash. Despite preserved appetite, he had 22% unintentional weight loss resulting in a BMI of 18 kg m⁻² and reduced hand grip strength. He was dehydrated and hypokalemic. Esophagogastroduodenoscopy revealed an obstruction in second part of duodenum. Duodenal biopsy indicated features of benign chronic duodenitis.

Management

Failing to achieve distal gut access, PN was commenced till definite surgery. When surgery was delayed due to cardiac compromise and sepsis, the provision of micronutrients solely through PN became a challenge.

Dehydration and hypokalemia were corrected with intravenous (IV) fluids and potassium. Three-bottle-system PN commenced with low calories and advanced gradually to 40kcal/kg/day (50% carbohydrates, 20% proteins, 30% fat). Only B vitamins, electrolytes, Calcium, and magnesium could be supplemented in IV route. Rest of the micronutrients were included in minimal oral feeds according to tolerance.

By the day of surgery, weight and mid-upper arm circumference increased by 5 kg and 1.5cm, respectively. On post-gastrojejunostomy day four, full oral feeds were established.

Conclusions

GOO causes nutrition deficiencies including water and electrolyte imbalances. Adequate, timely nutritional support will improve the surgical outcome. In a limited resource setting, the provision of micronutrients is a challenge during prolonged PN support in GOO.

Keywords

Gastric Outlet Obstruction, GOO, Parenteral nutrition, micronutrients

PP 61 - Nutritional intervention in an infant with myotonic dystrophy

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Introduction

Myotonic dystrophy (MD) is an autosomal dominant condition which affects not only skeletal muscles but also cardiac and smooth muscle function and multiple organ systems. This case report highlights the importance of timely nutritional intervention for patients with MD.

Clinical Presentation

An eight-month-old boy, diagnosed child with MD was admitted with fever and difficulty breathing for two days duration. Mother complains, the child gets a cough during feeding and prolongs feeding time. The child's weight gain was not satisfactory after birth despite starting complementary feeding at four months of age. His weight/age, length/age and weight/length are less than -3SD. The skin was loosened and bones were prominent.

Management

The child was managed as severe acute malnutrition (SAM) complicated with lower respiratory tract infection. Intravenous Cefotaxime was started for LRTI and a nasogastric tube was inserted for feeding. The initial phosphate level was low and Phosphate replacement was done with joules solution 2mmol/kg/day divided dose before starting the feeding. Feeding started with the F-75 formula, 100ml/kg and gradually increased the volume and transitioned to F-100 after stabilization. But the child developed loose stool raising the suspicion of lactose intolerance. Therefore, a rice-based diet was started gradually with a half-diluted oral rehydration solution. Upon discharge, the child's weight had increased and planned for Percutaneous endoscopic gastrostomy.

Conclusion

Dysphagia is often reported in patients with MD and has a prevalence between 25% and 80%. Feeding difficulties can happen even in infancy especially among myotonia dystrophic type 1 patients, posing a risk of SAM and life-threatening complications. Initial recognition and early nutritional interventions will increase the quality and lifespan of life.

Keywords

Myotonic dystrophy, Severe acute malnutrition, Feeding

PP 62 - Relative energy deficiency in sport in a Sri Lankan female athlete: A nutritional intervention approach

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Introduction

Relative energy deficiency in sport (RED-S) refers to ‘impaired physiological functioning caused by relative energy deficiency, leading to a range of negative health consequences. This case report highlights the importance of screening, timely diagnosis, and appropriate nutrition management of RED-S.

Clinical Presentation

A 37-year-old female athlete, who diagnosed to have a stress fracture of the left third metatarsal bone was referred for nutritional evaluation. She also reported generalized muscle pain, persistent fatigue, and feeling of loss of energy without any menstrual irregularities. Nutrition assessment revealed a protein intake of 1.1g/kg with low energy intake to match her physical activity. Her body mass index was 18kg/m² and her vitamin D level was 15 ng/ml. The diagnosis of RED-S is made with the presence of low energy availability, accompanied by other indicative symptoms.

Management

The management approach for this athlete involved increasing energy intake and reduction in exercise. Her energy intake is optimized by increasing her daily carbohydrate intake from 4g/Kg to 6g/Kg and adding healthy fat to her meals. To optimize post-training recovery, carbohydrate and protein-enriched meals were prescribed. Given the athlete's low vitamin D level, supplementation with vitamin D 60000 I.U. weekly and calcium 500mg daily was initiated to address the deficiency and support bone health.

Conclusion

Effective management of RED-S requires tailored nutritional interventions that consider the energy requirements of each athlete. Timely diagnosis and appropriate management can mitigate the risk of injuries, improve performance, and promote overall health and well-being.

Keywords

Relative energy deficiency in sport, stress fracture, low energy availability, female athlete

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