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Introduction

Welcome to Fresenius Kabi’s Quarterly Abstract Bulletin for enteral nutrition. We have reviewed the following journals over the past three months, and selected any nutrition support related articles:

- Age and Ageing
- American Journal of Clinical Nutrition
- Archives of diseases in Childhood
- BMJ
- British Journal of Community Nursing
- British Journal of Nursing
- Clinical Nutrition
- Complete Nutrition
- Critical Care Medicine
- Current Opinion in Clinical Nutrition and Metabolic Care
- Dysphagia
- European Journal of Clinical Nutrition
- Gastrointestinal Nursing
- GUT
- International Journal of Palliative Nursing
- Intensive Care Medicine
- Intensive and Critical Care Nursing
- Journal of Community Nursing
- Journal of Human Nutrition and Dietetics
- Journal of Parenteral and Enteral Nutrition
- Journal of Woundcare
- Lancet
- Nutrition
- Nutrition in Clinical Practice
- Nursing in Practice
- Nursing and Residential Care
- Nursing Older People
- Nurse Prescribing
- Nursing Standard
- Nursing Times
- Paediatric Nursing

We do recommend that the original article is used for the full details and results.

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This publication and previous editions are also available online at www.fresenius-kabi.co.uk under the nutrition service section.
Effect of a nutrient-enriched drink on dietary intake and nutritional status in institutionalised elderly

M Manders, C P G M de Groot, Y H Blauw, R A M Dhouksh-Rutten, L van Hoeckel-Pru, J G Bindels, E Siebelink and W A van Staveren


Abstract

Objective: (1) To determine whether nutritional supplementation (energy and micronutrients) in institutionalised elderly has a positive effect on dietary intake and nutritional status. (2) To investigate whether individuals tend to compensate for the energy content of the intervention product by decreasing their habitual food consumption. Methods: A 24-week, randomised, double-blind, placebo-controlled, intervention trial in homes for the elderly (n=3), in nursing homes (n=3) and 'mixed' homes (n=3) in The Netherlands. Institutionalised elderly people (n=176) older than 60 years of age, with a body mass index ≤30 kg/m² and a Mini-Mental State Examination score of 10 points or higher, randomly received a nutrient enriched drink or a placebo drink twice a day during 24 weeks in addition to their usual diet. Allocation to treatment took into account of sex, the Mini-Mental State Examination score and the plasma homocysteine level. Body weight and several nutrition-related analyses in fasting blood samples were measured in all participants. Data on dietary intake were collected in a subsample (n=66). Results: A significantly favourable effect (P<0.001) of the intervention drink was observed on vitamin intake, mineral intake and vitamin status in blood (for example, homocysteine decreased from 14.7 to 9.5 µmol/l in the intervention group as compared with that in the placebo group (17.2–15.9)). The difference in change in total energy intake between the two treatment groups was 0.8 MJ/day (P=0.166). Energy intake from food decreased in both groups to the same extent (-0.5 MJ/day). Therefore, this decrease cannot be considered as compensation for the energy content of the product. Conclusions: This group of institutionalised elderly people does not compensate for the energy content of a concentrated nutritional supplement. Therefore, this supplement is effective for counteracting the development of malnutrition in this population.

Efficacy of vitamin supplementation in situations with wound healing disorders: Results from clinical intervention studies

S Ellinger and P Stehle


Abstract

Purpose of review: This review evaluates the efficacy of vitamin supplementations for prevention and treatment of pressure ulcer and surgical wounds on the basis of recent clinical intervention studies. Recent findings: Intervention studies show that an energy and protein-rich oral nutritional supplement providing high doses of vitamin C and zinc in combination with arginine may prevent the development of pressure ulcers. This measure seems to improve the healing of pressure ulcer, which is questionable for vitamin C alone. For surgical wounds, data from randomized controlled studies are scarce, but results on the use of vitamin C in combination with pantothenic acid are promising. Summary: Considerable evidence suggests that supplementation of vitamin C together with zinc by an oral nutritional supplement rich in energy, protein and arginine may be an efficient tool for pressure ulcer healing in contrast to single vitamin C. The evidence for prevention of pressure ulcer by such an oral nutritional supplement is comparably low. This fits also for single vitamin C supplementation in the healing of surgical wounds. Further, well designed and well powered studies on the benefit of antioxidant vitamins for wound healing within a diet providing adequate energy and protein are necessary.
Nasogastric tube feeding—which syringe size produces lower pressure and is safest to use? An investigation into the most appropriate syringe size for use with nasogastric feeding tubes, and whether or not larger syringes produce lower pressure

T Knox and J Davie
Nursing Times (2009) 105 (27): 24-26

Abstract
Background: For this research, we worked on the hypothesis that larger syringe sizes would not generate greater pressures (negative or positive) than smaller ones. This contradicts current practice and theory, which states that larger syringes produce lower pressures and are safer. Aim: To establish the most appropriated syringe size in a laboratory experiment. Method: We attached a manometer to a syringe with and without nasogastric tubes and measured negative pressures generated when aspirating, and positive pressures generated when injecting fluids. Results: The findings suggest that smaller syringes generate lower pressures; further research is needed to confirm this. Conclusion: If we are correct there is a patient safety issue, which must be addressed urgently. Also, smaller syringes may lead to significant cost savings.

Enteral tube feeding in older people with advanced dementia: Findings from a Cochrane systematic review

B Candy, E L Sampson and L Jones

Abstract
Aim: Enteral tube feeding for older people with advanced dementia who have difficulty swallowing and poor nutritional intake is common. Potential benefits or harms of this practice are unclear and the authors aimed to evaluate the outcomes of this intervention. Methods: A full literature review was undertaken in April 2008. Randomized controlled trials (RCT's), controlled clinical trials, controlled before and after studies, interrupted time series studies and controlled observational studies that evaluated the effectiveness of enteral feeding via a nasogastric tube or via a tube passed by percutaneous endoscopic gastrostomy were selected. The study population comprised adults aged 50 and over with a diagnosis of advanced primary generative dementia who had poor nutritional intake and/or developed problems with eating and swallowing. The primary outcomes were survival and quality of life (QOL). Results: No RCTs were identified. Seven observational controlled studies were found; six assessed mortality. There was no evidence of increased survival in people with dementia receiving enteral tube feeding. The other study assessed nutritional outcomes. None of the studies examined the effect on QOL and there was no evidence of benefit in terms of nutritional status or the prevalence of pressure ulcers. Conclusions: There is insufficient evidence to suggest that enteral tube feeding is beneficial in people with advanced dementia. Data is lacking on the adverse effects of this intervention.
Clinical decision making and the provision of information in PEG feeding: An exploration of patients and their carers’ perceptions

A Brotherton and J Abbott


Abstract

Background: Government health care policy encourages a culture of patient choice and involvement in decision making, although the complexities and challenges involved in fully engaging patients in clinical decision making can be perceived as barriers to effective communication between the professional and patient. The present study aimed to explore the patients and their carers perceptions of the adequacy of the information provided and their subsequent involvement in the decision making process for percutaneous endoscopic gastrostomy (PEG) tube insertion. Methods: The study used purposive sampling. A cross-sectional qualitative design was utilised using semi-structured interviews, which were tape recorded. Sixteen patients and 27 carers were interviewed. The interviews were then transcribed verbatim and data analysis was undertaken using thematic analysis. Results: Only four patients and 11 carers reported having a choice in the decision for PEG placement, with only four patients and 10 carers, respectively, reporting they received sufficient information regarding the PEG. Poor communication, lack of information and inappropriate information, attitudes of health care professionals and exclusion were key themes for patients. Conclusions: Clinicians should develop interdisciplinary and participative practices to agree shared treatment goals and evaluate patient experiences. Consideration should also be given to the use of decision making models; in our opinion, the development of such a model, which supports interdisciplinary and participative approaches to decision making, is urgently required.

Percutaneous endoscopic gastrostomy feeding: Indications and management

R Slater


Abstract

Percutaneous endoscopic gastrostomy (PEG) has become one of the most useful and established enteral nutrition techniques available to patients requiring nutritional support worldwide. Good nutrition and the receiving of essential nutrients and electrolytes are vital for growth, healing, repair and delivery of essential energy to carry out daily tasks. The article looks specifically at PEG as a form of enteral nutrition delivery, how it is undertaken, and the care needs of the patient post-insertion of a PEG tube.
Inhibition of gastroesophageal reflux by semi-solid nutrients in patients with percutaneous endoscopic gastrostomy

S Nishiwaki, H Araki, Y Shirakami, J Kawaguchi, N Kawade, M Iwashita, A Tagami, H Hatakeyama, T Hayashi, T Maeda and K Saitoh


Abstract

**Background:** Aspiration is one of the major complications after percutaneous endoscopic gastrostomy (PEG). The administration of semi-solid nutrients by means of gastrostomy tube has recently been reported to be effective in preventing aspiration pneumonia. The effects of semi-solid nutrients on gastroesophageal reflux, intragastric distribution, and gastric emptying were evaluated. **Methods:** Semi-solid nutrients were prepared by liquid nutrients mixed with agar at the concentration of 0.5%. The distribution of the administered radiolabeled liquid and semi-solid nutrients was monitored by a scintillation camera for 15 post-PEG patients. The percentage of esophageal reflux, the distribution of the proximal and distal stomach, and the gastric emptying time were evaluated. **Results:** The percentage of gastroesophageal reflux was significantly decreased in semi-solid nutrients (0.82 ± 1.27%) compared with liquid nutrients (3.75 ± 4.25%), whereas the gastric emptying time was not different. The distribution of semi-solid nutrients was not different from liquid nutrients in the early phase, whereas higher retention of liquid nutrients in the proximal stomach was observed in the late phase. **Conclusions:** Gastroesophageal reflux was significantly inhibited by semi-solid nutrients. One of the mechanisms of the inhibition is considered to be an improvement in the transition from the proximal to distal stomach in semi-solid nutrients.

Comparison of a new unguided self-advancing jejunal tube with the endoscopic guided technique: A prospective, randomized study

U Holzinger, R Kitzberger, M Wewalka, W Miehsler and C Madl

Intensive Care Medicine (2009) 35 (9): 1614-1618

Abstract

**Objective:** To compare the success rate of correct jejunal placement of a new self-advancing jejunal tube with the gold standard, the endoscopic guided technique, in a comparative intensive care unit (ICU) patient population. **Design:** Prospective, randomized study. **Setting:** Two medical ICUs at a university hospital. **Patients:** Fortytwo mechanically ventilated patients with persisting intolerance of intragastric enteral nutrition despite prokinetic therapy. **Methods:** Patients were randomly assigned to receive an unguided self advancing jejunal feeding tube (Tiger TubeTM) or an endoscopic guided jejunal tube (Freka™Trelumina). Primary outcome measure was the success rate of correct jejunal placement after 24 h. **Results:** Correct jejunal tube placement was reached in all 21 patients using the endoscopic guided technique whereas the unguided self-advancing jejunal tube could be placed successfully in 14 out of 21 patients (100% versus 67%; P = 0.0086). In the remaining seven patients, successful endoscopic jejunal tube placement was performed subsequently. Duration of tube placement was longer in the unguided self-advancing tube group (20 ± 12 min versus 597 ± 260 min; P<0.0001). Secondary outcome parameters (complication rate, number of attempts, days in correct position with accurate functional capability, days with high gastric residual volume, length of ICU stay, ICU mortality) were not statistically different between the two groups. No potentially relevant parameter predicting the failure of correct jejunal placement of the self-advancing tube could be identified. **Conclusions:** Success rate of correct jejunal placement of the new unguided self-advancing tube was significantly lower than the success rate of the endoscopic guided technique.
Feeding jejunostomy for the treatment of severe hyperemesis gravidarum: A case series

S Saha, D Loranger, V Pricolo and S Degli-Esposti


Abstract

Background: Hyperemesis gravidarum is severe nausea and vomiting during pregnancy leading to dehydration, nutrition deficiency, and fetal morbidity and mortality. Treatment must maintain fluid and electrolyte balance and caloric intake. Parenteral nutrition is often attempted; however, complication rates are high. Nutrition via nasoenteric and percutaneous endoscopic gastrostomy tubes is limited by poor patient tolerance, tube dislodgement, and altered anatomy in pregnancy. Methods: Women with hyperemesis gravidarum who failed standard therapy were offered jejunostomy. All patients underwent surgical jejunostomy in the second trimester. Isotonic tube feeds were administered to a goal caloric factor calculated by the Harris-Benedict equation with a correction added for pregnancy. Results: Five women underwent jejunostomy placement at our institution between 1998 and 2005. One patient underwent jejunostomy placement twice for consecutive pregnancies. The mean body weight loss from prepregnancy was 7.9% (range, 4.0%-15.9%). Patients underwent jejunostomy placement between 12 and 26 weeks of gestation (median 14 weeks). Twelve to 16 Fr catheters were placed in the proximal jejunum. Maternal weight gain occurred in 5 of 6 pregnancies. The mean duration of tube placement was 19 weeks (range, 8-28 weeks). All pregnancies ended with term deliveries (range, 36-40 weeks of gestation). The mean infant birth weight was 2885 g (range, 2270-4000 g). Tube-related complications were limited to dislodgement in 2 patients in the third trimester. No cases of infection, bleeding, or preterm labor occurred. Conclusions: Feeding via jejunostomy is a potentially safe, effective, and well-tolerated mode of nutrition support therapy in hyperemesis gravidarum.

Enteral and parenteral nutrition for critically ill patients: A logical combination to optimize nutritional support

C Pichard, R Thibault, C-P Heidegger and L Genton

Clinical Nutrition (2009) Supplements 4: 3-7

Abstract

Malnutrition is a common and serious problem in intensive care units. Negative energy balance has been associated with increased morbidity and mortality in critically ill patients. The increased incidence of complications attributable to malnutrition correlates with increased length of hospital stay and overall health care costs. Although early enteral nutrition is the preferred method of feeding critically ill patients, enteral nutrition alone often fails to supply adequate calories and nutrients to critically ill patients, who are frequently hypermetabolic. Supplementation of insufficient enteral nutrition with parenteral nutrition may optimize nutritional support and avert negative energy balance in critically ill patients, thereby improving outcomes.
The relationship between nutritional intake and clinical outcomes in critically ill patients: Results of an international multicenter observational study

C Alberda, L Gramlich, N Jones, K Jeejeebhoy and A G Day


Abstract

Purpose: The objective of this study was to examine the relationship between the amount of energy and protein administered and clinical outcomes, and the extent to which pre-morbid nutritional status influenced this relationship. Methods: We conducted an observational cohort study of nutrition practices in 167 intensive care units (ICUs) across 37 countries. Patient demographics were collected, and the type and amount of nutrition received were recorded daily for a maximum of 12 days. Patients were followed prospectively to determine 60-day mortality and ventilator-free days (VFDs). We used body mass index (BMI, kg/m²) as a marker of nutritional status prior to ICU admission. Regression models were developed to evaluate the relationship between nutrition received and 60-day mortality and VFDs, and to examine how BMI modifies this relationship.

Results: Data were collected on 2,772 mechanically ventilated patients who received an average of 1,034 kcal/day and 47 g protein/day. An increase of 1,000 cal per day was associated with reduced mortality [odds ratio for 60-day mortality 0.76; 95% confidence intervals (CI) 0.61-0.95, p = 0.014] and an increased number of VFDs (3.5 VFD, 95% CI 1.2-5.9, p = 0.003). The effect of increased calories associated with lower mortality was observed in patients with a BMI <25 and ≥35 with no benefit for patients with a BMI 25 to <35. Similar results were observed when comparing increasing protein intake and its effect on mortality.

Conclusions: Increased intakes of energy and protein appear to be associated with improved clinical outcomes in critically ill patients, particularly when BMI is <25 or ≥35.

To return or to discard? Randomised trial on gastric residual volume management


Abstract

Background: The control of gastric residual volume (GRV) is a common nursing intervention in intensive care; however the literature shows a wide variation in clinical practice regarding the management of GRV, potentially affecting patients’ clinical outcomes. The aim of this study is to determine the effect of returning or discarding GRV, on gastric emptying delays and feeding, electrolyte and comfort outcomes in critically ill patients. Method: A randomised, prospective, clinical trial design was used to study 125 critically ill patients, assigned to the return or the discard group. Main outcome measure was delayed gastric emptying. Feeding outcomes were determined measuring intolerance indicators, feeding delays and feeding potential complications. Fluid and electrolyte measures included serum potassium, glycaemia control and fluid balance. Discomfort was identified by significant changes in vital signs. Results: Patients in both groups presented similar mean GRV with no significant differences found (p = 0.111), but participants in the intervention arm showed a lower incidence and severity of delayed gastric emptying episodes (p = 0.001). No significant differences were found for the rest of outcome measurements, except for hyperglycaemia. Conclusions: The results of this study support the recommendation to reintroduce gastric content aspirated to improve GRV management without increasing the risk for potential complications.
Comparison of enteral nutrition with combined enteral and parenteral nutrition in post-pancreatectoduodenectomy patients: A pilot study

S Nagata, K Fukuzawa, Y Iwashita, A Kabashima, T Kinoshita, K Wakasugi and Y Maehara


Abstract

Background: Many clinical studies have demonstrated that early postoperative enteral nutrition (EN) improved the postoperative course. Post-pancreatectoduodenectomy (PD), patients tend to suffer from postoperative nausea, abdominal distention, and diarrhoea, causing difficulty in the introduction of EN. In this pilot study, we investigated the appropriate nutritional mode post-pancreatic surgery. Methods: Between October 2006 and March 2007 2 postoperative nutritional methods were implemented in 17 patients in a prospective single-centre study. Eight patients received only enteral nutrition (EN group) and 9 patients received enteral nutrition combined with parenteral nutrition (EN + PN group). Results: There were no differences in the patient characteristics and postoperative morbidity between the 2 groups. The rate of discontinuance of enteral feeding was significantly high in the EN group, and the duration of enteral feeding was significantly longer in the EN + PN group. The central venous line was retained for a significantly longer period in the EN + PN group, but there was no difference in the frequency of catheter-related infection between the 2 groups. Conclusion: EN combined with PN is more adequate for patients after pancreatic surgery.

The nutritional intake supplied by enteral formulae used in older children (aged 7-12 years) on home tube feeds

S Evans, A Daly, P Davies and A MacDonald


Abstract

Background: In the UK, patients aged 6-12 years contribute more than one-third of children on home enteral tube feeds (HETF). Many enteral feeds are given to this age group. The present study aimed to investigate the formula with the best nutritional composition for children aged 7-12 years on HETF by comparing the nutrient intake of three feed types; a paediatric feed (PF) for 1-6 year olds, an adult feed (AF), and a feed for children (OCF) aged 7-12 years. Methods: Twenty-five HETF children aged 7-14 years (median 10 years) were given a 6.3 kJ mL⁻¹ enteral feed designed for 7-12 year olds (or weighing 21-45 kg) for 9 months. Nutrient intakes on the 7-12-year-old feed were compared with baseline feed (paediatric n = 10; or adult n = 15). Results: At baseline, the PF failed to meet 100% of the reference nutrient intake (RNI) for three of 19 (16%) of the nutrients studied, whereas AF provided in excess of 250% of the RNI for six of 19 (32%) of the nutrients. During the trial, the nutrients on the OCF were two of 19 (11%) <100% and four of 19 (21%) >250% of the RNI. Only seven of 10 (70%) children on a PF met at least 100% of the UK RNI for calcium, compared to 17 of 19 (89%) on the OCF. Conclusions: It is important to offer older children an enteral feed that provides an optimal level of nutrients to meet their nutritional requirements. Feeds designed for 7-12 year-old children more closely meet nutrient requirements than paediatric or adult formulae, but require further modification to fully meet the nutritional needs of this group.
Fibre content of enteral feeds for the older child

S Evans, A Daly, P Davies and A MacDonald


Abstract

Background: There is currently a lack of clinical data on fibre requirements in UK children. Subsequently, the ideal fibre profile for enteral formulae designed to meet the requirements of older children is unknown. The present study aimed to investigate the effect of fibre supplementation on gastrointestinal function of children aged 7-12 years (or weight 21-45 kg) receiving an age-specific high-energy enteral feed. Methods: In this double-blind randomised crossover study, 25 home enteral tube-fed children with a range of medical conditions (including cystic fibrosis, neurological conditions, liver transplant and bone marrow transplant) were given a 1.5 kcal mL⁻¹ formula with or without added dietary fibre (1.13 g per 100 mL). Each formula was taken for 6 weeks, followed by 6 months on the second randomly assigned formula. Anthropometry, blood biochemistry, stool characteristics, tolerance and oral dietary intake were assessed. Results: Despite a higher median fibre intake on the fibre-containing formula (84% versus 26% of recommended intake; P = 0.003), most children did not meet existing international recommendations for fibre as a result of small feed volumes (median 800 mL day⁻¹; 9 g fibre day⁻¹). There was some evidence of reduced constipation, laxative reliance and abdominal pain on the fibre-containing formula. Conclusions: Given the poor fibre intakes and absence of adverse effects, the use of fibre-containing formulae should become standard practice for the majority of children on enteral feeds. Larger trials in children are required to further evaluate the effect of amount and blend of fibre in enteral formulae for older children. However, it is likely that current formulae require higher levels of fibre.

Tube feeding and quality of life in children with severe neurological impairment

S Mahant, J N Friedman, B Connolly, C Goia and C Macarthur

Archives of Disease in Childhood (2009) 94 (9): 668-673

Abstract

Objective: To assess the quality of life (QOL) of neurologically impaired children before and after gastrostomy (G) and gastrojejunostomy (GJ) tube insertion. Design: This was a prospective longitudinal study of children with severe neurological impairment who underwent G or GJ tube insertion. At baseline, and at 6 and 12 months after tube insertion, parents rated (1) global QOL and health-related quality of life (HRQOL) using 10 cm visual analogue scales, with 10 representing maximal QOL and (2) HR-QOL using a questionnaire-based measure. Results: Fifty patients, 45 and five of whom underwent G and GJ tube insertion, respectively, were enrolled with a median age of 591 days. Forty-two had a static neurological disorder, and eight had a progressive neurological disorder. The mean weight for age z score increased significantly over time: -2.8 at baseline and -1.8 at 12 months. The mean QOL and HR-QOL scores at baseline were 5.5 and 5.6 out of 10, respectively. There was no significant change in these scores at 6 and 12 months post-tube insertion. Children with a progressive versus a static neurological disorder had a significantly lower QOL over time. Ease of medication administration as well as feeding showed a significant improvement in scores from baseline to 12 months. Parents felt that the G and GJ tube had a positive impact on their child’s health at 6 months (86%) and 12 months (84%). Conclusion: QOL as rated by parents did not increase following insertion of a G or GJ tube in neurologically impaired children. However, parents felt that the tube had a positive impact on their child’s health, particularly with regards to feeding and administration of medications.
Psychosocial implications of gastrostomy placement

C Gunton-Bunn and P McNee
Paediatric Nursing (2009) 21 (7): 28-31

Abstract
This article reviews the literature on the psychosocial implications of gastrostomy placement, and highlights key areas of concern for children and their families. Information giving, failure and abnormality, professional support, and concerns and outcomes were the themes that emerged from the literature. Analysing these themes showed that there is a significant gap in service provision and it is suggested that introducing the role of a key worker as a single point of contact for advice and support could improve the services received by children with complex needs and their families.

The impact of enteral feeding protocols on nutritional support in critically ill children

R Meyer, S Harrison, S Sargent, P Ramnarayan, P Habibi and D Labadarios

Abstract
Background: Studies have shown that feeding protocols may assist in achieving optimal nutritional care in critically ill children. The present study aimed to assess the impact of enteral feeding protocols on nutritional support practices through a continuous auditing process over a defined period. Materials and methods: A prospective audit on nutritional practice was initiated in 1994-1995 on all ventilated patients who were admitted for more than a complete 24-h period in the paediatric intensive care unit. The audit was repeated 1997-1998, 2001 and 2005. The collection of data on outcomes included the time taken to initiate nutritional support, the proportion of patients fed via the enteral versus parenteral route, and the proportion of children reaching 50% and 70% of the estimated average requirement (EAR) by day 3. Feeding algorithms and protocols were introduced after each audit with a view to improving practices. Results: Over the study period, time taken to initiate nutrition support was reduced from 15 h (1994-1995), 8 h (1997-1998), 5.5 h (2001) to 4.5 h (2005). The proportion of patients on parenteral feeds was reduced from 11% (1994-1995) to 4% (2005). An increase was also documented in the percentage of patients receiving a daily energy provision of 50% and 70% of the EAR by day 3 after the initiation of nutritional support (6% in 1994-1995 to 21% in 2005 for 70% of EAR). Conclusion: The present study demonstrates that feeding protocols improve nutritional practices in a paediatric intensive care unit. However, protocol introduction needs to be monitored regularly through audit.
Nutrition support in surgical oncology

M B Huhmann and D A August

Abstract
This review article, the second in a series of articles to examine the American Society for Parenteral and Enteral Nutrition (A.S.P.E.N.) Guidelines for the Use of Parenteral and Enteral Nutrition in Adult and Pediatric Patients, evaluates the evidence related to the use of nutrition support in surgical oncology patients. Cancer patients develop complex nutrition issues. Nutrition support may be indicated in malnourished cancer patients undergoing surgery, depending on individual patient characteristics. As with the first article in this series, this article provides background concerning nutrition issues in cancer patients, as well as discusses the role of nutrition support in the care of surgical cancer patients. The goal of this review is to enrich the discussion contained in the clinical guidelines as they relate to recommendations made for surgical patients, cite the primary literature more completely, and suggest updates to the guideline statements in light of subsequently published studies.

A difficult clinical problem: Diagnosis, impact and clinical management of cachexia in palliative care

S Holmes

Abstract
Cachexia is a distressing and debilitating condition, affecting significant numbers of patients with advanced disease and causing significant distress; it is the primary cause of death in about 20% of all patients with cancer. Though cachexia is most commonly associated with particular tumours, such as head and neck, gastrointestinal tract, pancreas, central nervous system and lung, it may affect any patient with any tumour at any site; no patient and no tumour are excluded. Its origin is both complex and multifactorial, appearing to reflect both reduced nutrient availability and increased nutritional demand, resulting from metabolic and pathophysiological changes, functional inability to ingest or utilize nutrients related perhaps to mechanical interference (e.g. obstruction, malabsorption, surgical intervention), treatment-related toxicity or social and psychological factors. This article offers an overview of the cachectic process, considering its pathophysiology and the factors contributing to its development before considering its diagnosis and impact on individuals. Although guidelines for its clinical management are provided, the article does not provide specialist advice; support will be needed from a dietitian or clinical nurse specialist.
Nutrition in palliative care

S Acreman


Abstract

Nutrition in palliative care and at the end of life should be one of the goals for improving quality of life. It is important to address issues of food and feeding at this time to assist in the management of troublesome symptoms as well as to enhance the remaining life. While this paper focuses upon the nutritional aspects of cancer in palliative care, the sentiments are applicable to other serious chronic illnesses such as advanced cardiac failure, chronic obstructive pulmonary disease and dementia. Cancer and its treatments exert a major impact upon physical and psychological reserves and at the end of life problems with appetite and the ability to eat and drink compound such impact. The aims of nutritional care minimize food-related discomfort and maximize food enjoyment. Identification of any nutritional problems can facilitate the employment of strategies which need to be discussed with the patient and their families and reviewed regularly as conditions change. Ethical questions will be raised concerning the provision of food and fluids to a person nearing the end of their life. Nurses need to acknowledge that food has greater significance that the provision of nutrients.

Adiposity and insulin resistance in nondiabetic hemodialysis patients: Effects of high energy supplementation

S-C Hung and D-C Tarng


Abstract

Background: In contrast to the general population, a higher body mass index is associated with better survival among hemodialysis patients. Theoretically, high energy supplementation in these patients ought to lead to weight gain over time, but the benefits of this strategy are unclear. Objective: The objective was to assess whether high energy supplementation in nondiabetic hemodialysis patients might adversely affect insulin resistance—a known risk factor for cardiovascular disease. Design: We first investigated the association between body fat mass and insulin resistance (homeostasis model assessment of insulin resistance; HOMA-IR) in nondiabetic hemodialysis patients in a cross-sectional analysis (study 1). Of the 106 individuals studied, 55 were randomly assigned to either high energy supplementation (an extra 475 kcal/d; n = 28) or not (n = 27) for 12 wk to assess prospective changes in body fat mass and insulin resistance (study 2). Results: In study 1, body fat mass (P<0.05) and C-reactive protein (CRP) (P<0.05) each contributed independently to HOMAIR. In study 2, 41 patients completed the study. The 20 patients who received high energy supplementation had a significantly greater increase in body fat mass (P<0.05), CRP (P<0.05), and HOMAIR (P<0.001) than did the 21 controls. Conclusions: Body fat mass and CRP are primary determinants of insulin resistance in nondiabetic hemodialysis patients. High energy supplementation, because it increases adiposity and inflammation, exacerbates insulin resistance. A long-term study is needed to clarify the metabolic effects of high energy supplementation on cardiovascular disease outcomes in hemodialysis patients.
Reference List

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- Van Baalen C (2009) Pre- and postoperative management of patients with oesophageal cancer. Gastrointestinal Nursing (2009) 7 (7): 26-32. This article discusses pre- and postoperative management of oesophageal cancer, the potential complications and the importance of understanding the physical, psychological and social adjustments to life after surgery.

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