CASE STUDY: Intensive Nutritional Intervention in a Frail, Elderly Patient

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About one in ten people older than 65 years of age is frail, which increases to between a quarter and a half of those older than 85 years of age. So, healthcare professionals need to remain alert for frailty and, when necessary, offer intensive nutritional support. The British Geriatric Society (BGS) recommends assessing older people for frailty at all encounters with health and social care professionals. Malnutrition can cause and contribute to frailty. So, people should be assessed for malnutrition opportunistically, at first contact with a new care setting and upon clinical concern, such as: appearing thin or with loose fitting clothes; and those who show muscle wasting, altered bowel habit or chronic concurrent illness. This case study illustrates that intensive nutritional management, supported by Fortisip Compact Protein and Calogen Extra Shots, improved nutritional outcomes in a frail 85-year old woman who showed marked weight loss following disease and bereavement.

Presentation

Edna was admitted to the Older Person's Unit with watery diarrhoea and faecal incontinence that, she reported, had lasted five weeks. She recently underwent outpatient investigations for weight loss, including computed tomography (CT) and endoscopy, which revealed nothing of note. Her past medical history included iron-deficiency anaemia, osteoarthritis, hiatus hernia, glaucoma, multi-level spinal stenosis, right total knee replacement, histologically confirmed collagenous colitis 15 years previously and a deep vein thrombosis the previous year.

Edna lived alone and independently of carers. Her husband had died two weeks before admission. Screening on admission revealed a Malnutrition Universal Screening Tool ('MUST') score of 4, suggesting that Edna was at high risk of malnutrition and she was referred to the dietitian. Investigations during the admission excluded infective diarrhoea and tests for faecal elastase and calprotectin were negative. She was awaiting a colonoscopy.

First dietetic assessment

On assessment, Edna weighed 48.9kg with a body mass index (BMI) of 18kg/m². Her weight had declined by 12kg since admission six days previously. Edna said that her usual weight was 63kg and that she had lost 12kg over two months, which she ascribed to loose stools and reduced appetite. The dietitian estimated that Edna had lost 21% of her body weight. In addition, Edna showed worsening renal function, hyponatraemia and hypokalaemia. She received 1 litre of intravenous fluids, without electrolyte replacement.

Edna ate only around half of her meals. She disliked hospital food, experienced early satiety and nausea, and worried that food and fluids would go “straight through” her. Her Bristol Stool Chart indicated that she passed type 7 stools (watery, no solid pieces) up to five times a day. She was tearful and distressed by her recent bereavement and her faecal incontinence.

Edna met one of the indications specified by the Advisory Committee on Borderline Substances for the use of ONS (disease-related malnutrition). She was also at high risk of dehydration and refeeding syndrome. The dietitian stressed the importance of nutrition to aid recovery. The dietitian and Edna agreed a goal of preventing further weight loss and minimising the risk of the refeeding syndrome. Nutritional support aimed to help Edna meet her daily requirements of 1.5g/kg/day protein and 2300kcal/day, including an ‘extra’ 1000kcal to compensate for weight loss.

The dietitian provided dietary advice to enable Edna to improve her intake by eating “little and often” with snacks between meals and full-fat milk, but Edna was unlikely to meet her macro- and micronutrient requirements with food alone. The dietitian suggested Fortisip Compact Protein once daily (300kcal, 18g protein) and Calogen Extra Shots twice daily (320kcal, 4g protein) in addition to dietary advice. This combined ONS regimen also provided approximately 50% of Edna’s reference nutrient intakes (RNI) for vitamins and minerals. The medical team was asked to prescribe

This information is intended for healthcare professionals only.

Fortisip Compact Protein is a Food for Special Medical Purposes for the dietary management of disease related malnutrition and must be used under medical supervision.

Calogen Extra Shots is a Food for Special Medical Purposes for the dietary management of conditions requiring a high energy intake and must be used under medical supervision.
intravenous fluids and refeeding vitamins as well as monitoring and replacing electrolytes.

Follow up in hospital

Edna was reviewed twice more by the dietitian and once by the dietetic assistant during her admission. Colonoscopy identified sigmoid diverticular disease, which was confirmed on biopsy. The gastroenterologist prescribed budesonide and loperamide. A Red Cross volunteer helped Edna attend her husband’s funeral, during her admission.

Edna’s stool frequency improved. Her oral intake, however, remained poor due to her dislike of hospital food. Edna showed good compliance to the ONS, preferring milder flavours. At discharge, her weight was just 0.2kg below that on admission and she had returned to baseline mobility. She remained tearful at times, but was reassured by her improved weight. Her renal function also recovered.

On discharge, she was given dietary advice and a copy of the trust’s ‘Small Appetite’ information sheet. She agreed to an ongoing prescription of Fortisip Compact Protein to help increase her nutritional intake and weight during rehabilitation. The GP was asked for a prescription specifying Fortisip Compact Protein twice daily, to be reviewed at the outpatient dietetic clinic 5 weeks later.

Follow up after discharge

At the outpatient dietetic clinic, Edna had gained 5.8kg with a BMI of 20.7kg/m\(^2\), equivalent to an 11% increase in body weight and her iron levels were rising. Her appetite had improved and she ate 3 regular balanced meals and regular fluids. She took Fortisip Compact Protein twice daily between meals alongside snacks of biscuits, cakes and desserts. Her diarrhoea had almost resolved and loperamide had been discontinued. Her confidence had improved, she was living independently and had ventured out on the bus a few times.

The dietitian reinforced the dietary advice. Edna wanted to continue gaining weight to 57kg as she still felt self-conscious about being thin and could not wear the clothes she wanted to. The dietitian asked the GP to prescribe Fortisip Compact Protein twice daily for another month, with a view to reduce to once daily for 1 month before discontinuing.

Learning points

Malnutrition is common among hospital patients, affecting about 34% of older adults on admission.\(^7\) If left unmanaged, malnutrition can increase the duration of hospital stay (by about 30%)\(^7\) and the risk of readmissions.\(^8\)

Edna’s case illustrates that intensive management, supported by nutrient dense, low volume ONS, helps improve nutritional status and support recovery, despite high losses from diarrhoea and poor appetite. Edna maintained her functional status and mobility and quickly returned to her normal life after discharge. Monitoring progress in a specialist older person’s dietetic outpatient clinic and weaning patients off ONS after goals have been achieved is important.

Edna’s management reflected NICE guidance for oral nutritional support\(^9\) and the British Dietetic Association care process.\(^10\) Edna achieved a BMI of 20kg/m\(^2\) by her first outpatient appointment, however ONS was continued in order to help Edna attain the optimal BMI for older adults, which may be higher (24-29kg/m\(^2\)) than that generally recommended for younger populations. Indeed, a BMI up to 24kg/m\(^2\) may mask nutritional risk in older adults.\(^11\)

In addition, loss of skeletal muscle function (sarcopenia) is a hallmark of physical frailty.\(^1\) The European Society of Clinical Nutrition and Metabolism (ESPEN) recommends 12-15g/kg/day protein for people older than 65 years.\(^6\) Older patients need more dietary protein than younger patients to support good health, promote recovery and maintain function.\(^6,12\) Dietary protein combined with exercise aids the recovery and maintenance of muscle strength and function in older people.\(^6,12\) Dietitians should encourage food-based strategies to increase intakes in hospital and on discharge. However, frail elderly patients with poor appetite may not meet their requirements with diet alone.

ONS has been shown to improve total nutritional intake and status, with little suppression of food intake, which in turn can reduce mortality and complications (such as infections and pressure ulcers),\(^13\) improve hand grip strength, quality of life and other functional outcomes\(^2\) and reduce readmissions by 41% compared to routine care.\(^8\) Further evidence suggests high protein ONS in particular offers significant clinical, functional and nutritional outcomes.\(^14\)

ESPEN recommends offering ONS to hospitalised older persons with, or at risk of, malnutrition to improve intake and body weight, and reduce the likelihood of complications and readmission. After discharge, ESPEN recommends offering ONS to elderly patients with, or at risk of, malnutrition to improve nutrient intake and body weight, and reduce the likelihood of functional decline. These ONS should provide at least 400kcal/day and at least 30g/day protein, and should be prescribed for at least a month.\(^15\) Nutrient dense, low volume products are particularly well suited to people with significant nutritional deficit and poor appetite, which may be common in frail patients.
As Edna transitioned from inpatient to outpatient care, dietetic management followed the Malnutrition Pathway, which recommends continuing ONS for 4-6 weeks after discharge. Some patients – such as frail elderly people – may need an initial ONS prescription for up to 12 weeks depending on their clinical condition and nutritional needs.

Edna received intensive nutrition support during hospital admission and post-discharge, without which her weight, health and physical status would probably have declined further. This may have led to prolonged frailty, greater overall costs to health and social care, a more difficult recovery and longer course of nutritional interventions. As this case study shows, proactive nutritional intervention is the key to tackling malnutrition and frailty in these vulnerable patients.

References