Peripheral oedema is associated with poor outcomes following emergency abdominal surgery

A Culkin,* B Rye, C Hanson.

Methods A prospective cohort study of patients undergoing emergency abdominal surgery and the value of early post-operative oedema measurement in predicting clinical outcome.

Results 55 patients were included, median age 66. Post-operative measurement in predicting clinical outcome.

Introduction Peripheral oedema is frequently observed in critically ill patients following surgery and is commonly attributed to poor nutritional status and associated with worse outcomes. This study assesses the prevalence of generalised oedema following emergency abdominal surgery and the value of early post-operative oedema measurement in predicting clinical outcome.

Methods A prospective cohort study of patients undergoing emergency abdominal surgery and the value of early post-operative oedema measurement in predicting clinical outcome.

Results 55 patients were included, median age 66. Post-operative complications included ileus (n=9), sepsis (n=6) and death (n=10). Post-operative oedema was present in 19 patients (35%) and associated with prolonged peri-operative fasting (4 vs 1 days, p=0.009) but not BMI (24 vs 27 kg/m², p=0.16) or pre-admission weight loss (5% vs 3%, p=0.9). Oedema was associated with prolonged hospitalisation (24 vs 10 days, p=0.0004), complications and/or death (68% vs 31%, p=0.007) and a trend towards increased artificial nutritional support (42% vs 22%, p=0.07). Presence of oedema independently predicted death (p=0.016), median follow-up 155.5 days.

Conclusion Generalised oedema is common after emergency abdominal surgery but not predicted by commonly used markers of nutritional status such as BMI or recent weight loss in. Increased peri-operative fasting and subsequent intravenous fluid administration may be a significant contributor to post-operative oedema. Measurement of post-operative oedema may offer utility in identifying those at risk of poor clinical outcome or those requiring artificial nutritional support.

Competing interests None declared.

References

Healthcare use according to body mass index (BMI) category in individuals registered to GP practices

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Methods All patients admitted to St Mark’s Hospital with IF over a 12-month period were included and data on demographics, serum total vitamin D concentration, IF aetiology and vitamin D supplementation prescribed were obtained. IF deficiency was identified (≤50 nmol/l) if the efficacy of treatment provided was assessed. Descriptive analysis and t-tests were performed.

Results Eighty-four patients were included in the study (42 female, mean age 53±15 years, 92% Caucasian). The aetiology of IF included short bowel (n=30), fistula (n=34), small bowel obstruction (n=13), malabsorption (n=5) and others (n=2). Vitamin D was measured in 76% (n=64) of patients and 75% (n=48) were deficient (mean 41±25 nmol/l, range 9–126). Vitamin D concentrations were lower in men (33±15.3 nmol/l) compared to women (49.5±29.5 nmol/l) (p=0.009). No association was demonstrated with age, aetiology of IF or ethnicity. There was a trend towards reduced Vitamin D and increasing BMI (p=0.187, r²=0.028). No seasonal variation was demonstrated between summer (June–November, 42.8±26.5 nmol/l) and winter (December–May, 39.5±21.6 nmol/l) (p=0.57). Only 26% (n=22) of patients had repeat vitamin D concentrations before discharge. There was a significant increase in vitamin D concentrations from 35±22 nmol/l to 44.8±14.3 nmol/l (p=0.03). Twenty-nine patients received intramuscular Vitamin D at a dose of 500 000 IU. In these patients there was an increase in concentration before (23.4±13.6 nmol/l) and after (42.8±12.7 nmol/l). Due to the small numbers of patients it was not possible to determine the efficacy of the different vitamin D preparations or the effect of the multivitamin preparation used in parenteral nutrition (Cernevit®) on serum concentrations.

Conclusion Vitamin D deficiency is common and occurs in three-quarters of IF patients. Male gender was associated with lower concentrations. Robust policies need to be in place for the identification of vitamin D deficiency including the supplementation and monitoring of vitamin D deficiency in patients with IF to ensure adequate serum concentrations are achieved.

Competing interests None declared.

References

Vitamin D deficiency is common in intestinal failure patients

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