

**OC-036 PERIPHERAL OEDEMA IS ASSOCIATED WITH POOR OUTCOMES FOLLOWING EMERGENCY ABDOMINAL SURGERY**

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**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 at a university surgical unit over a 2-month period was undertaken. Nutritional status data were collected and oedema measured in the early post-operative period. Clinical outcome data were collected until discharge and at subsequent outpatient consultations.

**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/m<sup>2</sup>, 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.

**OC-037 VITAMIN D DEFICIENCY IS COMMON IN INTESTINAL FAILURE PATIENTS**

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**Introduction** Vitamin D is essential due to its role in bone health and its immunomodulatory properties.<sup>1</sup> Patients with intestinal failure (IF) are at risk of Vitamin D deficiency due to inadequate absorption and lack of exposure to UVB light. Deficiency has been demonstrated in IF patients dependent on home parenteral nutrition.<sup>2</sup> We aimed to determine the prevalence of vitamin D deficiency in hospital patients with IF and the efficacy of subsequent prescribed treatment.

**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 ( $\leq 50$  nmol/l) 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  $53 \pm 15$  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  $41 \pm 25$  nmol/l, range 9–126). Vitamin D concentrations were lower in men ( $33.4 \pm 15.3$  nmol/l) compared to women ( $49.5 \pm 29.5$  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,  $r^2=0.028$ ). No seasonal variation was demonstrated between summer (June–November,  $42.8 \pm 26.5$  nmol/l) and winter (December–May,  $39.3 \pm 21.6$  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  $35 \pm 22$  nmol/l to  $44.8 \pm 14.3$  nmol/l, (p=0.03). Twenty-nine patients received intramuscular Vitamin D at a dose of 300 000 IU. In these patients there was an increase in concentration before ( $28.4 \pm 13.6$  nmol/l) and after ( $42.8 \pm 12.7$  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 (Cernevite<sup>®</sup>) 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.

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**OC-038 HEALTHCARE USE ACCORDING TO BODY MASS INDEX (BMI) CATEGORY IN INDIVIDUALS REGISTERED TO GP PRACTICES**

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**Introduction** Previous studies have assessed the relationship between body mass index (BMI) and healthcare use in primary care settings but have been limited to individuals with pre-defined diseases or those with a recorded diagnosis of malnutrition.<sup>1–3</sup> This study using data from The Health Improvement Network (THIN) database (UK) aimed to examine GP-related healthcare use and hospital admissions according to two BMI categories (underweight and normal weight) across all individuals registered to GP practice.

**Methods** Two cohorts of individuals registered with GPs were randomly selected from the THIN database (Cohort 1 BMI  $\leq 19.9$  kg/m<sup>2</sup> n2632, Cohort 2 BMI 20.0 to  $\leq 24.9$  kg/m<sup>2</sup> n2632). Cohorts were matched for age (52 y (22.4)), gender (81% female) and GP practice. Individuals were included if they had at least two BMIs recorded from May 2010 to May 2011 and were registered for at least 12 months. Individuals were excluded if they; were living in institutions, had conditions affecting weight for example, oedema, had a BMI  $< 13.0$  kg/m<sup>2</sup>, or receiving palliative/end of life care. GP-related healthcare use (practice visits, home visits, out of hours visits, telephone consultations) and hospital admissions over 1 year were retrieved using read codes and locate flags; and a simple cost analysis was undertaken using unit costs.<sup>4</sup>

**Results** A significantly greater proportion of individuals with a BMI  $\leq 19.9$  kg/m<sup>2</sup> had at least one; home, out of hours visit or telephone consultation with the GP practice (Abstract OC-038 table 1), and