

The impact of enteral nutrition in patients with kidney disease, either during an acute admission or in patients admitted electively to treat malnutrition

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Introduction: Malnutrition is common in patients with kidney disease with a prevalence of 28-54% for those on dialysis and 42-75% of patients with an acute kidney injury. Enteral nutrition (EN), either nasogastric (NG) or nasojejunal (NJ) can be used to prevent deterioration of nutritional status and/or to treat malnutrition, when a food first approach and oral nutritional supplements have failed. The aim of this service evaluation was to investigate the impact of EN provision on patients with kidney disease during an acute admission and in patients who were admitted electively for supplemental EN.

Methods: Data was collected prospectively for all adult patients admitted to two renal wards who received EN (either via NG, NJ or gastrostomies) from August 2018 to August 2019. Demographic data, dry weight, subjective global assessment (SGA) score, estimated oral intake (kcal/protein) and mortality data were collected. A paired t-test was performed between data collected on admission and at discharge.

Results: Over 1 year, 46 patients (mean 63 years, SD +/- 13) received EN: 39 as part of their acute admission and 7 were elective admissions for supplemental EN. The length of admission ranged from 4-225 days (median=26 days) and length of feeding ranged from 0.5- 114 days (median=10.5 days). Six months prior to admission, 28 out of 46 patients had lost weight and of these, 12 patients had lost significant body weight (15-30% weight loss). Out of the 39 acute admissions, 14 died during the admission. Throughout admission, average weight increased in the elective admissions group ($p=0.008$) but decreased in the acute admissions group ($p=0.004$), however 2 patients were unable to be weighed ($n=23$ for acute admissions). The number of patients with an SGA score of 1-2 (malnourished) increased in the acute admissions, but decreased in the elective admissions (see Table 1.) Both groups showed significant increase in calorie and protein intake throughout admission ($p < 0.01$).

Discussion: On average, patients showed significant increase in oral intake after EN was initiated which suggests it may help to stimulate appetite. However, improvement in patient's clinical condition, inflammation and reason for admission are also contributing factors. EN is often used when patients are medically unwell; the need for EN during an acute admission may be a predictor of in-hospital mortality, as 14 out of 39 patients died. Elective admission patients showed an improvement in nutritional status which supports the evidence for early nutritional intervention and elective admission for malnutrition, where other nutrition interventions have failed. Further data is being collected on all patients at 6 months post discharge to establish the longer term outcomes of enteral nutrition.