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IS NASOJEJUNAL FEEDING AS EFFECTIVE AS WE THINK? AN EVALUATION OF NASOJEJUNAL FEEDING IN THE INTENSIVE CARE UNIT

M. Pattwell, R. Eckersley, L. White, L. Fixter, A. Rochford. *Department of Gastroenterology, Royal Free Hospitals London NHS Foundation Trust, Pond Street, London, NW3 2QG*

Early enteral feeding is important in maintaining the integrity of the gastrointestinal tract mucosal barrier and associated with less bacterial translocation and decreased stimulation of the systemic inflammatory response and subsequent improved outcomes in intensive care (ICU) patients. Enteral feeding by nasogastric (NG) tubes is the preferred route of nutritional support for most ICU patients. However, ICU patients with delayed gastric emptying and poor intestinal motility may not tolerate gastric feeding and may therefore benefit from post-pyloric feeding via nasojejunal (NJ) tubes[1].

We reviewed the effectiveness of 35 NJ tube placement in 24 patients on ICU between January and March 2021. The M:F ratio was 4:1, median age 69 years (30–80 years) and 54% of patients were non-White British. 10 patients (42%) had diabetes and 54% had COVID-19 as part of their admitting diagnoses.

The median BMI was 25 (range 20 − 32.3) and none of the patients were identified as high risk for refeeding syndrome at the time of NJ tube insertion. Nutritional information was unavailable on 5 patients. Of the remaining 19 patients, 26% of patients (n=5) were commenced on parenteral nutrition (PN) within 48 hours of NJ insertion. Only 1 patient was able to meet their nutritional requirements enterally via NJ tube at 5 days; a further 2 patients had their nutritional requirements met with supplemental PN.

In 8 of 22 referrals the indication for NJ tube insertion was because an NG tube could not be passed. The evaluation revealed discrepancies in adherence to protocols for high gastric residual volumes and prokinetic use. Documentation surrounding decision making, requesting and inserting an NJ tube was poor and probably reflects the complexity of the patients, involvement of multiple clinical teams, and various documentation modalities (i.e., verbal, written and different electronic systems). There was clinical dispute regarding the indication for NJ tube insertion in 23% of cases (documented in 3 of 13 referrals for NJ tube insertion).

Where documentation was available 43% of patients (n=10) had an NJ tube placed on the day of request; the median time from request to insertion was 1 day (range 0-10). 5 patients had more than one NJ tube inserted (median 3; range 2–5). There was variation in experience and expertise of the endoscopists placing the NJ tubes.

NJ tube feeding is considered to be less expensive and have less complications than PN[2]. However, our evaluation has revealed a range of issues relating to both the insertion and use of NJ tubes in an ICU setting. The true resource 'cost' of NJ tube insertion is probably underestimated in the literature and the complications of PN probably overestimated in the context of modern ICU and nutrition support team clinical practices. We suspect that our clinical experience is not unique and that more research is needed in this area. We are using this work to educate clinical teams, standardise documentation, provide better support and supervision for endoscopists, and raise awareness of the benefit and need for supplemental PN where nutritional requirements are not consistently reached enterally.

[1] Schröder S, Hülst S V, Claussen M et al. Postpyloric feeding tubes for surgical intensive care patients. Anaesthetist 2011; 60 (3): 214-20.

[2] Lochs H, Dejong C, Hammarqvist F et al. ESPEN Guidelines on enteral nutrition: Gastroenterology. Clin Nutr 2006; 25(20: 260-74.

NUTRITIONAL COMPARISON OF SURGE ONE AND SURGE TWO COVID-19 PATIENTS IN AN ADULT INTENSIVE CARE UNIT

M. Dawson, L. Stokes, A. Kralevich, C. Hanlon. *University Hospitals of Leicester NHS Trust, Infirmary Square, Leicester, LE1 5WW, UK*

It has been a hugely challenging task proving nutritional support in adult intensive care units during the COVID-19 pandemic. We therefore reviewed the nutritional parameters of patients admitted to intensive care during both surges of the virus to provide detailed information and to ensure we are fully informed to provide the best service in future surges.

Retrospective data was collected from 168 patients using dietetic electronic handovers from 04.10.20 to 04.04.21 and compared to the data collected for 122 patients in surge one, (data collected 20.03.20 to 8.5.20). This was analysed using an excel spreadsheet.

The results are outlined in table one below:

Table 1 Summary of patient demographics and BMI of Covid-19 patients on an adult critical care unit

	Surge one	Surge two
Gender	77% male, 23% female	68% male, 32% female
Age	28-77 years, mean 57	21-80 years, mean 55
Diabetes	19%	23%
CVD	32%	37%
Nil PMH	34%	14% (nb 74% of these had BMI >25
BMI Available	80%	85%
Mean BMI kg/m^2	30.4	30.6 range 16.6-75
BMI <25 kg/m^2	15%	18%
BMI 25-29.9 kg/m^2	30%	34%
BMI >30 kg/m^2	38%	47%
BMI >40 kg/m^2	7%	10 %

The critical care ventilation plan for these patients had been reviewed[1] and this impacted the route of feeding as follows: Nasogastric feeding on admission: 50.6% (96%), oral nutritional support: 35% (4%), oral nutritional support with subsequent NG feeding: 11% (3%), parenteral nutrition: 1.8% (0), PEG: 0.62% (0). Using data collected from surge one, we were able to prepare training for the dietetic team with regards to the demographics of the patient and the impact on nutritional care. This is particularly important with regards to the challenge of meeting energy and protein requirements of obese patients[2]. We reviewed the difficulties gathering accurate weights from the first wave and purchased new patient transfer scales®. This allowed us to gain weights that we would not have been able to. More patient heights were available as dietitians were present on the unit in surge two (remote working in surge one) and were able to do bedside measures of ulna length where a height was unavailable. Using surge one data we were prepared for high numbers of patients requiring enteral feeding on admission. However there was a different picture in surge two with more patients awake, using high flow oxygen therapy or on a CPAP hood. This brought different challenges with meeting macro and micronutrients orally. Patients with breathing difficulties were not keen to consent to an NGT and when they did, the NGT insertion procedure was tricky in those patients with high Fi02. We reviewed our range of macronutrient supplements and started using an oral protein supplement containing 30 mls, 10 g protein and 100 kcal to help with this. We attended MDT meetings to discuss feeding route and for further surges we plan to implement a standard operating procedure for enteral feeding patients on CPAP.

1. Intensive Care Society (2021) Clinical Guideline for the management and care of critically ill adults with COVID-19 during the coronavirus pandemic. Faculty of Intensive care Medicine.

2. Singer et al (2019) ESPEN guideline on clinical nutrition in the intensive care unit: Clinical Nutrition 38:48-79

IMPROVING COMPLIANCE OF THE 'MALNUTRITION UNIVERSAL SCREENING TOOL (MUST)' WITHIN AN ACUTE CARE OF THE ELDERLY WARD

J. Hargan, A. Duffty. *University Hospital Hairmyres, 218 Eaglesham Road, East Kilbride, G75 8RG*

Prevalence of malnutrition in acute setting is thought to be 29% on admission, however, older adults are considered to be particularly high risk especially those with multiple comorbidities or frailty[1]. The MUST tool has been validated for use in the acute setting to identify patients at risk who may require additional nutritional support with/without the input of a Dietitian[2]. NICE guidelines advise that clinical staff screen all patients for malnutrition on admission or on transfer to a ward within 24 hours and ongoing weekly[3]. An initial data collection was carried out in September 2020 to identify current practice of MUST on a care of the elderly ward which identified compliance rates of as little as 34%, furthermore 67% of patients did not have