

Development and implementation of an audit tool for improving care of patients requiring parenteral nutrition

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Development and implementation of this audit tool was preceded and prompted by a rapid and unexpected increase in parenteral nutrition (PN) referrals at UCLH at the beginning of 2010. The objectives of the audit were to judge timely prescription and delivery of PN to the patients requiring it, as well as to test safeguarding these patients' management. Quality of service was assessed against national guidelines and with regard to the internal protocols described in The UCLH Adult and Adolescent Parenteral Nutrition Handbook. Reviews of referral forms and PN continuation sheets (audit tool) were conducted on consecutive tertiary patients at UCLH referred to the nutrition support team (NST). The data collected included demographics, underlying diagnosis, indications for PN, risk and incidence of refeeding syndrome, complications, duration, routes of administration and failure to prescribe timely PN.

In our analysis the most common indication for parenteral nutrition was high-output stoma (39%) preceding enterocutaneous fistula (22%). The majority of patients (78%) was nil by mouth, and they were referred within the first 5 d – mainly those with high-output stomas. The paralytic ileus group (17%), was referred to the NST within 10 d of continued fasting. The NST managed to commence the initial steps towards satisfying the nutrition treatment plan in 78% of the referrals on the same day. Nearly 12% were accommodated the day after and 6% were inordinately delayed (>2 d). Although a risk of re-feeding syndrome was reported in 44% of patients, clinically significant re-feeding syndrome was conspicuously absent. Central access was reached in 45% with a peripherally inserted (PICC) line, in 38% by Hickman/Broviac line and by temporary jugular line in 14%; 3% were fed through peripheral cannulae. Complications of central lines were grouped as mechanical and septic. Mechanical line complications were observed in 26% of patients, with only a single case requiring removal; there was a 15% rate of septic line complications. On 1% of prescription days, intended PN was not administered: this was because of prescription/formulation discrepancies on 46% of occasions, from staff inability to locate the PN on 45%, and in 9% of cases the PN had not been prescribed in time.

This audit of the PN service at UCLH aimed at securing better compliance with national and local guidelines with regard to patient selection, safe and timely prescription as well as delivery of PN. The audit tool proved to be a sensitive measure to identify shortcomings of the NST service. It was also observed that many subgroups of patients (especially post-operative paralytic ileus) were belatedly referred, which significantly increased the risk of re-feeding syndrome; another compounding factor that contributed to postponement of PN initiation was Friday late afternoon referrals. We suspect that line-related sepsis could be reduced with judicious use of multi-lumen catheters and appropriate continued professional development training for the nursing staff whereby, patient morbidity and catheter loss could be prevented. Recommendations are also made in favour of the introduction of a computerised PN worksheet to help reduce transcription errors and decrease PN prescription discrepancy.