Randomized clinical trial of glutamine-supplemented versus standard parenteral nutrition in infants with surgical gastrointestinal disease.
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Abstract
BACKGROUND:
Addition of glutamine to parenteral nutrition in surgical infants remains controversial. The aim of this trial was to determine whether glutamine supplementation of parenteral nutrition in infants requiring surgery would reduce the time to full enteral feeding and/or decrease the incidence of sepsis and septicaemia.

METHODS:
A prospective double-blind multicentre randomized clinical trial was performed in surgical infants less than 3 months old who required parenteral nutrition. Patients were allocated to treatment or control groups by means of minimization. Infants received either 0.6 g per kg per day alanyl-glutamine (treatment group) or isonitrogenous isocaloric parenteral nutrition (control group) until full enteral feeding was achieved. Primary outcomes were time to full enteral feeding and incidence of sepsis. Cox regression analysis was used to compare time to full enteral feeding, and to calculate risk of sepsis/septicaemia.

RESULTS:
A total of 174 patients were randomized, of whom 164 completed the trial and were analysed (82 in each group). There was no difference in time to full enteral feeding or time to first enteral feeding between groups, and supplementation with glutamine had no effect on the overall incidence of sepsis or septicaemia. However, during total parenteral nutrition (before the first enteral feed), glutamine administration was associated with a significantly decreased risk of developing sepsis (hazard ratio 0.33, 95 per cent confidence interval 0.15 to 0.72; \( P = 0.005 \)).

**CONCLUSION:**
Glutamine supplementation during parenteral nutrition did not reduce the incidence of sepsis in surgical infants with gastrointestinal disease.