

OUTCOMES OF NEONATAL-ONSET INTESTINAL FAILURE DUE TO SURGICAL SHORT BOWEL SYNDROME IN THE CURRENT ERA

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Background: There have been many recent advances in the treatment of Short Bowel Syndrome (SBS) including fish oil-based lipid emulsions, multi-disciplinary care, and improved central line care. But the recent long-term outcome data is lacking, and the counseling and decisions regarding care of these patients is still based on older outcome data. The objective is to describe the long-term outcomes of neonatal-onset intestinal failure due to surgical SBS in the current era of improved management.

Materials/Methods: A retrospective cohort study of infants born between January 2011 and December 2018 at a large quaternary referral NICU with intestinal failure due to short bowel syndrome with the following inclusion criteria: <44 weeks post-menstrual age at time of diagnosis, parenteral nutrition (PN) dependence >60 days, documented intestinal resection. Exclusion criteria included: transferred prior to discharge. Primary outcomes included survival at the last follow up and achievement of enteral autonomy (no PN >60 days). Secondary outcomes included blood stream infections, cholestasis (conjugated bilirubin ≥ 2 mg/dL), and intestinal failure associated liver disease (IFALD).

Results: Ninety-five (95) patients with median follow-up time of 38 months (IQR 19-59) were included. The average gestational age was 30w5d (SD 5w) and BW 1624g (SD 941), with most common diagnoses being necrotizing enterocolitis (39%) and atresia (20%). At the last follow up, survival was 95% with 85% achieving enteral autonomy. Forty-eight (48) patients had documented residual bowel lengths with the following percentage of survival and achievement of enteral autonomy at last follow up, respectively: 30cm or less (n=8): 100% and 50%; 31-60cm (n=18): 95% and 84%, 61cm or greater (n=20): 95% and 93%. 76% of the cohort developed IFALD with resolution of cholestasis occurring in 97% with fish-oil based lipid therapy. Through the follow-up period, one patient received an intestinal lengthening procedure, two patients were evaluated for intestinal transplant, and none received intestinal transplants.

Conclusions: High rate of survival and enteral autonomy were noted in a large cohort of infants with neonatal onset of intestinal failure due to surgical short bowel syndrome managed in the current era of improved treatments. Survival was not correlated to length of residual bowel, while achievement of enteral autonomy was. These improved outcomes should be included in counseling and decision making of this vulnerable group of infants.