

"FIRST STEP" OR NATURE DESERVES A SECOND CHANCE!

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Aim of the Study: Surgical management of short bowel syndrome (SBS) in children is challenging. Recently, more authors are advocating for performing serial transverse enteroplasty procedure (STEP) in the neonatal period in SBS quoting the term "Primary STEP" or "First STEP". We aim to look for indications and outcomes, in the literature, of all STEPs performed in the first 28 days of life.

Methods: We performed an OVID MEDLINE/ EMBASE search looking at all lengthening procedures for SBS in children since the introduction of STEP in 2003. Papers reporting a lengthening STEP in the neonatal period were analysed.

Main Results: Nine papers matched our search criteria, accurate data can be collected from 7 papers. A total of 22 cases had a STEP procedure at a median age of 2 days [IQR 1-3]. The primary diagnosis was: Jejunal atresia (63.6%), vanishing gastroschisis (22.7%), gastroschisis with atresia (9.1%) and midgut volvulus (4.6%). In nearly a third of the cases pre STEP residual small bowel (SB) length was > 50 cm. Five patients achieved enteral autonomy after the "First STEP", however 60% of them had pre STEP SB length > 90cm. Following a median follow up of 24 months [IQR 16-26] 60% of the cases required a second STEP, 40% are still PN dependant, 3 more cases achieved enteral autonomy following a second STEP, 2 infants died and one required SB transplantation. Interestingly, in two cases the natural SB growth in the first six months of life between the two STEPs was nearly double the length achieved between the two lengthening procedures combined.

Conclusion: It has been long established that considerable SB growth occurs in the first few months of life (Weaver LT, 1991). STEP can be a method of mucosal-sparing tailoring and tapering procedure, however its success in primary SB lengthening in the neonatal period is questionable.