

## **A COMPREHENSIVE ANALYSIS OF PUBLISHED EXPERIENCE OF GASTRIC TRANSPOSITION RECONSTRUCTION OF THE OESOPHAGUS IN CHILDREN**

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**Aims:** Previous reviews of gastric transposition have restricted their analysis by use of systematic review or meta-analysis methodology. Our aim was to analyse all published reports of gastric transposition reconstruction of the oesophagus in children, with particular reference to the effect of duration and completeness of follow up on reported outcomes.

**Methods:** Web of science was used to identify reports. For each study, we reviewed all cited references and performed a citation search to identify subsequent citations. Reports were analysed for the proportion and duration of children followed up. We define long term follow up as greater than 5 years. The reported mortality, anastomotic leak and stricture rate were recorded to derive cumulated outcomes. Complications rates were contrasted between studies with comprehensive long term follow up and other reports.

**Results:** 66 studies were identified. We excluded 9 studies where children could not be distinguished from adults or where gastric transposition could not be distinguished from other techniques. 3 institutions repeatedly reported their experience; in these we utilised the latest or the largest report. Another 5 studies reported children previously described. Allowing for duplicate reporting we found 37 studies reporting 559 children. Cumulated outcomes were: mortality 5%, anastomotic leak 32%, anastomotic stricture 21%. Only three studies reported comprehensive long term follow up. The outcomes were significantly worse in these reports with complication rates ranging from 66-100%. A variety of serious adverse outcomes including anaemia, oesophagitis and dysplasia were only apparent with long term follow up. Other frequently reported complications were: respiratory failure, inability to swallow, intra-thoracic volvulus, jejunostomy morbidity and paragastric hiatal hernia.

**Conclusions:** A comprehensive analysis of published studies suggests that gastric transposition reconstruction leads to significant late complications. This is masked by most studies reporting either short or incomplete follow up. Children require lifelong surveillance following this procedure.