

**CASE REPORT**

# Successful Treatment of Multiple Jejunio-Ileal Atresia by Four Primary Anastomosis and Trans Anastomotic Silastic Stents

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**Abstarct**

A case of multiple intestinal atresia is described. Dilatation of the bowel was observed at 19 weeks' gestation during routine ultrasound scan. Regular scans were performed throughout the pregnancy and a simple bowel obstruction was suspected. The baby was delivered at 40 weeks' gestation in good condition. The infant had feeding intolerance caused by small bowel obstruction but abdominal distension developed during the first day. At laparotomy, multiple intestinal atresia were found. The interpretation of successful traetment of multiple jejunio-ileal atersia and transanastomotic silastic stents are discussed.

**Key Words**

Jejuno ileal atresias, Multiple, Intestinal Trans Anastomotic Stents

**Introduction**

Jejunioileal atresias are major causes of neonatal intestinal obstruction presenting different conditions with complete congenital occlusion of the intestinal lumen. The cause is unknown, and theories range from multiple ischemic infarcts, possibly from a more global placental insufficiency, intrauterine inflammatory process to an early embryologic defect of the GI tract (1). Findings of intestinal atresia in family members suggest possible autosomal recessive transmission (2). According to classification of Louw – modified by Grosfeld *et al* (3), four types of jejunioileal atresias are described. Type IV involves multiple small-bowel atresias of any combination of types I to III. This defect often takes on the appearance of a string of sausages because of the multiple lesions. Multiple intestinal atresia are reported in 6-20% of patients and they present a difficult technical problem because of extreme loss of intestinal length, disparity of residual bowel wall size, and discontinuity of multiple short intestinal segments (4) . They often necessitate en-bloc resection and a single anastomosis, rather than multiple anastomosis. It is important, however, to maintain maximum bowel length to avoid the short bowel syndrome.

**Case Report**

We report here in the case of a 3140-g male infant born at 40 weeks' gestation with multiple intestinal atresia, for whom multiple anastomosis were successfully performed. A total of 4 atresias were found in the small bowel. The first one was type I, two of them were type IIIa and the last one was type II. Four primary anastomosis were performed to preserve the length of small bowel. We performed one end-to-back anastomosis and three other end-to-end anastomosis. Since the first atresia was located on proximal jejunum we did resection of dilated proximal atretic segment and thereafter completed the end-to-back anastomosis using a 8 F SILASTIC catheter as an intraluminal stent. The catheter was left in situ as a trans-anastomotic stent extending through to the level of the distal ileum facilitating the completion of all four primary anastomosis. All four anastomosis were completed in single-layer with interrupted through-and-through extramucosal stitches using 5-0 Vicryl. The proximal end of catheter got exteriorised through a small enterotomy on proximal jejunum, proximally from the first anastomosis. Through the same enterotomy we put another (proximal)

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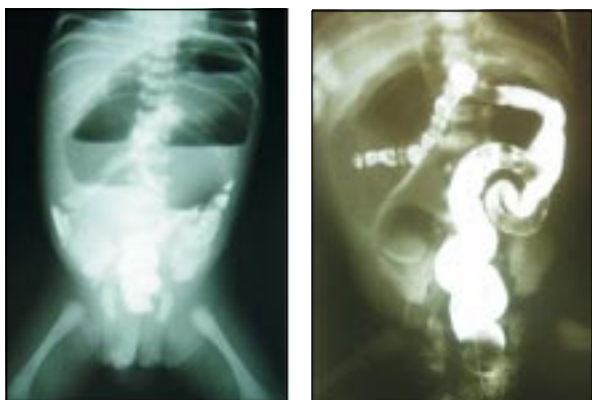
intraluminal catheter inside proximal jejunum in order to evacuate liquids coming down from duodenum and proximal jejunum.

**Postoperative Details**

On day 5 after operation we take out the transanastomotic intraluminal stent. Two days later we took out the intraluminal stent from proximal jejunum and the same day there was isolated Citrobacter in hemoculture, so we started treatment with Imipenem and Amikacin, according to the results of hemoculture. After the removal of second stent there was a little leakage of bilious content from the site of enterotomy but it stopped spontaneously two days later. On day 10 we started oral feeding. Successful treatment of this patient was completed on day 30 and the same day the child was released from hospital.



**Fig 1. Visible Bowel Loops on Abdominal Wall**



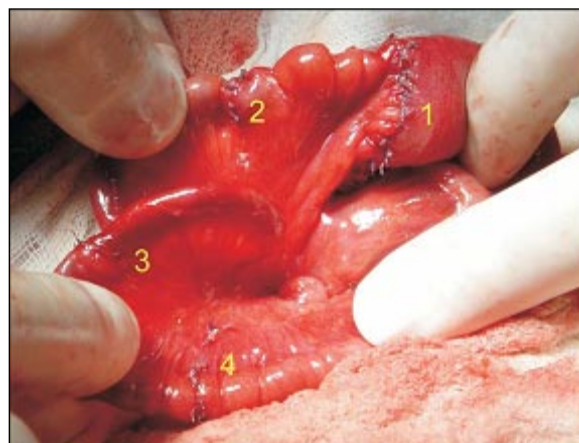
**Fig.2 Air Fluid Levels Shown on Plain X ray & Barium Enema**

**Discussion**

Jejunioileal atresia occurs in 1 of 2,500 live births owing to an intestinal vascular insult in utero and multiple intestinal atresias occur less frequently, affecting only one fifth of all infants with intestinal atresia (1). Puri *et al* (5) reported that all cases of hereditary multiple



**Fig.3 Type I and Type II Atresia**



**Fig.4 End-Oblique Anastomosis (1) & End to End (2,3,4) Completed Over an Intraluminal Stent**



**Fig.5 Proximal and Distal Intraluminal Stents Coming Out Through Enterotomy**



**Fig.6 Three Weeks Later**



intestinal atresias and some cases of multiple intestinal atresias are a consequence of a malformative process of the gastrointestinal tract rather than an ischemic process. Guttmann et al described multiple atresias and a new syndrome of hereditary multiple atresias involving the gastrointestinal tract from stomach to rectum (2). Also pyloric atresia and gastroschisis associated with intestinal atresia has been reported in the literature(6,7). The most important cause of mortality is short gut syndrome, which occurs most often in infants similar to our patient with multiple intestinal atresia. Traditional surgical treatment has included tapering enteroplasty, resection, and primary anastomosis (8-10, 3,1, 6,4). Intraoperative options in the presence of multiple intestinal atresia with very short bowel of small intestine less than 10 cm in length are limited (4): primary end-to-end anastomosis, which carries a high risk of perforation without a long-term hope for an intestinal adaptation; a proximal jejunostomy, with high risk of cutaneous problems and electrolyte disturbance from the leaking bile. Bianchi's tapering and lengthening procedure was to be discussed but on a later stage of the disease, for the so-called self-selected survivors in a stable general condition without liver failure because of prolonged total parenteral nutrition( 4,11). Hatch and Schaller (6) described a "shish-kebab" technique in 1986, to perforate multiple membranous obstructions as an alternative to multiple resections in infants with multiple intestinal atresia. Chaet *et al* (12) reported the use of intraluminal silastic stents to support multiple hand-sewn anastomoses in infants with multiple jejunoileal atresia. A more recent report by Lessin *et al* (13) showed that multiple spontaneous small bowel anastomoses could be achieved using stents in micropremature infants with necrotizing enterocolitis. This report provided the conceptual basis for the technique used in our patient. Intraluminal intestinal stents may be used safely to promote spontaneous anastomosis with maximal preservation of small bowel length and shortened operating time. We performed effectively one end-to-back anastomosis and three further end-to-end anastomosis. While the first atresia was located on proximal jejunum we did resection of dilated proximal atretic segment and after that finished the end-to-back anastomosis using a 8 F silastic catheter as an intraluminal stent. Multiple anastomoses may be the appropriate

procedure to prevent short-gut syndrome for congenital multiple intestinal atresia, even in premature infants.

### Conclusion

This case demonstrates the importance of preserving the bowel length by performing multiple primary anastomoses in cases with multiple intestinal atresia. Use of exteriorized intraluminal stents facilitates the completion of multiple primary anastomoses, makes it possible early radiological evaluation and early enteral feeding, and it is easy and safe to remove them avoiding need for further surgical procedures.

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