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Clinical Profiles and Out Come of Jejunoileal Atresia

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Abstract: *Intestinal atresia accounts for about one third of all cases of neonatal intestinal obstruction.The prevalence of jejunoileal atresia widely varies among different reports.In INDIA intestinal atresias to be the most common cause of intestinal obstruction in newborns and the second most common cause (11.8%) after intussusception (20.8%) in all age groups. Boys and girls are equally affected.Jejunoileal atresias seem to be more common than duodenal atresias, and colonic atresias account for the fewest number of case . Patients with intestinal atresia are epidemiologically characterized by young gestational age and low birth weight, the atresia is associated with twinning, the parents are more often consanguineous compared with parents of healthy neonates, and vaginal bleeding frequently complicates the pregnancies. No correlation between jejunoileal atresia and parental age or disease has been proven. Some maternal infections may be associated with ileal atresia. This study is done with an aim of evaluating the clinical presentation, diagnostic evaluation, management and the outcome of jejunoileal atresia at Niloufer Hospital and Institute of Child Health, Hyderabad.*

Keywords: *jejunoileal atresia , neonatal intestinal obstruction*

I. Introduction

Jejunoileal atresia is the commonest congenital neonatal intestinal obstruction [1].The word atresia comes from Greek 'A' which means no or with out and ' tresia' which means orifice.It is congenital intestinal obstruction caused by complete occlusion of the lumen [2]. Depending on the type of atresia neonates with jejunoileal atresia presents with various clinical profiles which include bilious vomiting, distension of abdomen, failure to pass meconium and jaundice. Detailed clinical history, plain X-ray abdomen and contrast enema helps in diagnosis of condition.Preoperative stabilization, exploratory laprotomy and depending upon the pathological condition of atresia, resection of bowel and with either end to back anastomosis or ileostomy or exteriorization of the bowel are the cornerstones of management of jejunoileal atresia. Aggressive postoperative management with higher antibiotics are used for intestinal atresia cases with potential sepsis. Partial or total parenteral nutrition is needed for those with prolonged ileus or short bowel syndrome, low birth weight, anastomotic leak and cases with sepsis for reducing the morbidity and mortality. A combined retrospective and prospective study was done at Niloufer Childrens Hospital to study the outcome of neonates with jejunoileal atresia from August 2006 to March 2009 .

II. Material And Methods

The study of clinical profiles and out come of intestinal atresia is a combined retrospective and prospective study done between August 2006 to March 2009. It includes all neonates who presented with jejunoileal atresia to the Department of paediatric surgery, Institute of Child Health, Niloufer Hospital, Hyderabad.All neonatal intestinal atresia cases were evaluated by a preformed proforma containing the age, gender, weight and detailed history regarding the symptoms After detailed history and complete physical examination, the neonate has been investigated for biochemical and haematological abnormalities, radiographic tests to confirm the diagnosis and were taken up for surgery. Operative findings and postoperative details and short-term outcomes were analysed. All patients were followed up from a period ranging from 6 months to 3 years to evaluate for long term morbidity and mortality.

The neonates were admitted into the Neonatal Intensive care. Their hydration was assessed and corrected. Preoperative antibiotics (Cefotaxime and Metronidazole) were given. All patients had a nasogastric tube placed, which was aspirated every 2 hours and kept on dependent drainage. Their acid-base balance was evaluated and corrected. Urine output was monitored and body temperature was monitored and maintained.All patients underwent abdominal x-ray examination, both erect and supine. If there was evidence of obstruction without intestinal perforation contrast enema was performed. Operative management was undertaken after complete evaluation and informed consent from the parents.

III. Results

A total of 62 patients were operated between August 2006 to March 2009. There were 29 males and 33 female neonates treated. The average age at presentation was 2.3 days (1-7 days). The average weight at the time of surgery was 2.4 kgs (2-3 kgs). The duration of admission ranged from 1- 19 days with an average of 10.44 days.The most common symptom was Abdominal Distension with vomiting (22 patients, 35%).

Table 1: Clinical presentation

S.NO	Clinical presentation	Number	Percentage
1	Abdominal Distension	7	11%
2	Abdominal Distension with delayed passage of meconium	1	1.6%
3	Abdominal Distension with Jaundice	10	16%
4	Polyhydramnios with vomiting	5	8%
5	Vomiting with delayed passage of meconium	17	27.4%
6	Abdominal Distension with vomiting	22	35%

X - Ray abdomen was taken in all patients before surgery. The most common finding was multiple fluid levels (30.6%) and thumb sized loops (30.6%).

Table 2: X-ray findings

Xray findings	Number	Percentage
Few loops	11	18%
Air fluid levels	12	19.4%
Multiple air fluid levels	19	30.6%
3 fluid levels	1	1.4%
Thumb size loops	19	30.6%

Contrast study was done in 26 patients (42%), 12 (46%) showed microcolon and 14 (54%) were barium swallows which showed holding up of dye in the proximal loops.The most common type of atresia seen was Type IIIa 23 (37.1%)

Table 3: Types of atresia

Type of atresia	number	percentage
I	12	19.4%
II	17	27.4%
IIIa	23	37.1%
IIIb	6	9.7%
IV	4	6.4%

The patients underwent the following surgeries.

Table 4: Type of surgery

S.NO	Surgery	Number	percentage
1	End to back anastomosis	26	42%
2	End to oblique anastomosis	1	1.6%
3	Enterotomy and web excision	6	9.7%
4	Ileostomy	4	6.4%
5	Multiple anastomosis	1	1.6%
6	Single anastomosis	2	3.2%
7	Tapered end to back anastomosis	22	35.5%

The most preferred surgeries were the End to back (42.2%) and the tapered end to back anastomosis (35.5%). 20 (32%) complications were seen with 8 (13%) deaths. The patients had the following complications.

Table 5: Complications

S.No	Complications (n=20)	Number	Percentage
1	Hyper bilirubinemia	2	10%
2	Anastomotic dysfunction	7	35%
3	Anastomotic leak	4	20%
4	Post operative Sepsis	3	15%
5	Wound infection	4	20%

Anastomotic dysfunction is the most common. Almost all patients with sepsis, anastomotic leak, post operative hyperbilirunimea died.

IV. Figures

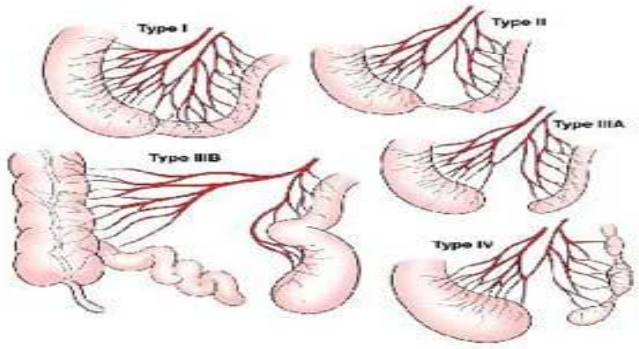

Fig. 1.Types of jejunoileal Atresia

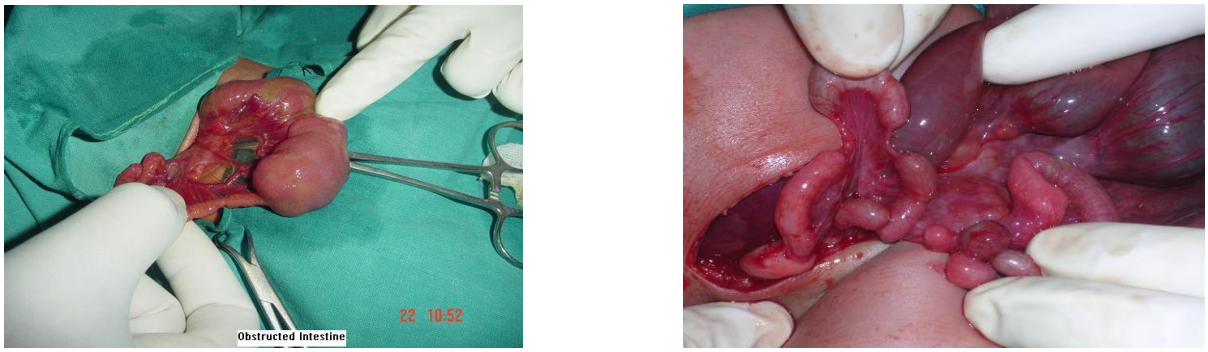

Fig.2. Intra operative pictures.

V. Discussion

The overall prognosis in cases of jejunoileal atresia is good. Since the mid 1970s, advances in neonatal care have allowed progressive reduction in mortality from a historical high of more than 90%. Many authors have now reported overall survival exceeding 90%[3, 4]. The most significant improvement over that time period has been the ability to provide long-term nutritional support, which is usually necessary for a period of weeks to months after the surgical repair.

Type I, II, and IV atresia each account for about one-fourth of the patients with atresia. Less common but potentially more serious are the type IIIb atresias that comprise less than 10% of atresias seen, but have been associated with a disproportionate amount of the perioperative morbidity and mortality[5,6]. In our study at Niloufer hospital 62 patients were treated with jejunoileal artesia with a mortality of 8 cases (12.9%). Study done by the Department of Paediatric Surgery, Lady Hardinge Medical College and Kalawati Saran Children's Hospital, New Delhi, India [7] they reported 42 patients with small bowel and large bowel atresia. They had an overall mortality of 13% which comparable with our series. They had a higher morbidity and mortality in the type IIIb and IV atresia (25%. 33% respectively) which is similar to our results.In a study done by Patil VK, Kulkarni BK, et al from Sholapur, India they treated 19 neonates with small bowl artesia of which 3 by resection anastomosis and 16 with end to end linear anastomosis. They had 3 cases of TypeII, 12 Type IIIa, 3 TypeIIIb and 1 Type IV. They had 4 deaths 1 after end to end linear anastomosis and 3 after resection anastomosis. In our study we did end to back and tapered end to back anastomosis. We had 8 deaths for 62 neonates treated showing better results.

In developing countries, the poor nutritional status of the patients, late presentation or diagnosis, improper or inadequate management at primary and secondary health centers, lack of availability or accessibility to good neonatal intensive care centers and lack of nutritional support, are the primary reasons for the high mortality rates reported in patients with bowel atresias [8,9] . The resultant high incidence of preoperative hypovolemia, dehydration, electrolyte imbalance, sepsis, pneumonia and unconjugated hyperbilirubinemia, undoubtedly has an adverse effect on the prognosis [10,11]. Late referral of patients, initially admitted in overcrowded paediatric medical units in our own institution, is also an adverse prognostic factor. As shown by this study, delay in presentation or management also increases the incidence of secondary gastrointestinal problems such as bowel gangrene, intestinal perforation and intestinal volvulus. In our study, clinical findings and plain abdominal radiographs were found to be sufficient to make a diagnosis and to take a decision regarding the need for surgery.The principles enunciated by Filston [12] regarding perioperative fluid therapy in newborns and infants undergoing major gastrointestinal surgery, are invaluable in this regard.We believe that

wherever residual small bowel length will be adequate i.e., more than around 75 cms [13] liberal resection of proximal dilated bowel with a single end-to-oblique anastomosis, every attempt being made to preserve the ileocaecal valve, is the most desirable option and is usually safe and effective. In recent reports, multiple anastomoses (upto 7 in number) have been advocated by several authors in order to increase the available intestinal length in type IV atresia [14]. However, multiple anastomoses do lead to increased morbidity . It has been suggested that in Jejunoileal atresia, resection of the dilated proximal bowel should be minimized, as central venous TPN can tide over the period of dysmotility and impaired anastomotic function [15]. However, preservation of as much bowel length as possible at the risk of creating a poorly functioning anastomosis, has little merit and can produce significant morbidity and mortality. This is especially important if facilities for administration of TPN are lacking, as at our center.

We also believe that after resection, creation of a wide end-to-oblique anastomosis by slitting open the distal bowel until its diameter easily equals that of the proximal bowel reduces the risk of anastomotic dysfunction. In this series, we preferred to avoid stomas whenever possible, as the consequent fluid and electrolyte losses may be severe and very difficult to manage, both in our institutional setup, as well as by the parents at home.Early recognition of anastomotic leak or peritonitis is essential. Clinical findings are usually adequate for this purpose. Reoperation should be performed as early as is possible.

VI. Conclusion

Jejunoileal atresia presents as commonest cause of neonatal intestinal obstruction Common presentation of Jejunoileal atresia is distension of abdomen with vomiting is observed in 22 patients (35 %). Clinical examination and X-Ray of abdomen or contrast X-Ray are sufficient to diagnose intestinal atresia Commonest type of atresia noted in our series is Type IIIa, 23 patients (37.1 %) Patients should undergo surgery after adequate resuscitation with fluids, antibiotics and correction of electrolyte imbalance. Commonest type of surgery done in our series is end to back 26 patients (42.2 %). Mortality of Type IIIb and Type IV atresia are high.. Specialized post operative care with neonatal monitoring, total parenteral nutrition should be made possible for good out come in cases with low birth weight, sepsis, perforation and high risk cases. Following Jejunoileal atresia surgery early recognition of complications with early redo surgery may have an impact on the outcome. Enteral nutrition should be instituted in early post operative period to ensure fast recovery. Mortality is primarily associated with the presence of other congenital anomalies and birth weight. The over all prognosis for patient with Jejunoileal atresia is depend upon the amount of residual bowel function that exist after surgery.

Acknowledgements:

None

References

[1]. O'Neill JA Jr Duodenal atresia and stnosis In : O' Neill JA Jr, Rowe Mi, Grosfeld J L , et al eds Paediatric Surgery 5th ed St. Louis, Mo : Mosby 1998
[2]. Jay L Grosfeld. Jejunoileal atresia and stenosis. In Jay L Grosfeld et. al eds Paediatric surgery 6th ed.,Mosby, 2006
[3]. Dalla Vecchia LK, Grosfeld JL, West KW, et al. Intestinal atresia and stenosis: a 25-year experience with 277 cases. Arch Surg 1998; 133:49"497.
[4]. Kumaran N, Shankar KR, Lloyd DA, et al. Trends in the management and outcome of jejuno-ileal atresia. Eur J Pediatr Surg 2002; 12:163
[5]. Festen S, Brevoord JC, Goldhoorn GA, et al. Excellent long-term outcome for survivors of apple peel atresia. J Pediatr Surg 2002;37:61-65.
[6]. Waldhausen JH, Sawin RS. Improved long-term outcome for patients with jejunoileal apple peel atresia. J Pediatr Surg 1997;32:1307-1309.
[7]. Chadha R, Sharma A, Roychoudary s, Bagga D. Treatment strategies in the management of jejunoileal and colon atresia. J Indian Assoc Pediatr Surg 2006. 11: p 79-84
[8]. Adeyemi D. Neonatal intestinal obstruction in a developing tropical country: Patterns, problems and prognosis. J Trop Pediatr 1989;35:66-70.
[9]. Ameh EA, Nmadu PT. Intestinal atresia and stenosis: A retrospective analysis of presentation, morbidity and mortality in Zaria, Nigeria. West Afr J Med 2000;19:39-42
[10]. Gross RE. Congenital atresia of the intestine and colon. In: Gross RE (editor). The Surgery of Infancy and Childhood. Saunders: Philadelphia PA; 1953. p. 150.
[11]. Louw JH. Resection and end-to-end anastomosis in the management of atresia and stenosis of the small bowel. Surgery 1967;62:940-50.
[12]. Filston HC. Fluid and electrolyte management in the pediatric surgical patient. Surg Clin North Am 1992;72:1189-205.
[13]. Wilmore DW. Factors correlating with a successful outcome following extensive intestinal resection in newborn infants. J Pediatr 1972;80:88-95.
[14]. Chaet MS, Warner BW, Sheldon CA. Management of multiple jejunoileal atresias with an intraluminal SILASTIC stent. J Pediatr Surg 1994;29:1604-6.
[15]. Sato S, Nishijima E, Muraji T, Tsugawa C, Kimura K. Jejunoileal atresia: A 27-year experience. J Pediatr Surg 1998;33:1633-5.