General Surgery Open Access Open Journal

SOAOJ PUBLISHING

Case Report

Jejunal Atresia in Newborn: A Case Report

Muhammet Mesut Nezir ENGİN[1*], Aybars ÖZKAN[2], Önder KILIÇASLAN[1] and Kenan KOCABAY[1]

[1]Department of Pediatrics, Duzce Medical Faculty, Duzce, Turkey
[2]Department of Pediatrics Surgery, Duzce Medical Faculty, Duzce, Turkey

Correspondence to: Muhammet Mesut Nezir ENGİN; Department of Pediatrics, Duzce Medical Faculty, Duzce, Turkey; Tel: +903805421390; E-mail: doktormesut@hotmail.com

Received: June 4th, 2020; **Accepted:** June 16th, 2020; **Published:** June 19th, 2020

Citation: ENGİN MMN, ÖZKAN A, KILIÇASLAN O, KOCABAY K. Jejunal atresia in newborn: A case report. *Gen Surg Open A Open J.* 2020; I(1): 21-23.

ABSTRACT

Jejunal atresia is a rare congenital malformation. Mortality, which was 90% in the 1950s, decreased to approximately 10%. There are studies reporting 1/5000 incidence. We presented a case with polyhydramnios and enlargement of the intestines in the prenatal period, a nutritional defect after birth, with dilated bowel loops with air-fluid levels on the direct abdominal x-ray, and operated on the first day of postnatal diagnosis.

Keywords: *Abdominal distention, Polyhydroamniosis, Jejunal atresia, Newborn.*

INTRODUCTION

There are many reasons for intestinal obstruction during the neonatal period and infancy. These may be due to atresia, stenosis, annular pancreas, malrotation, duplication cyst, meconium ileus, meconium plug syndrome, neonatal small left colon syndrome, Hirschsprung's disease, neoplasia, trauma, and other rare causes.[1] Jejunal atresia is a rare congenital malformation. Mortality rate which was 90% in the 1950s, decreased to approximately 10%. There are studies reporting 1/5000 incidence.[2,3] Signs about small bowel atresia begin with maternal polyhydramnios. It was aimed to discuss and remind of rare jejunal atresia by presenting clinical follow-up and treatment of the patient diagnosed with postpartum jejunal atresia in our clinic.

CASE REPORT

A 37-year-old mother was delivered by cesarean section at her 33rd gestational week as 2175 grams. The baby cried as soon as he was born. APGAR scoring at 1st minute 9 and 5th minute 10 was evaluated. Prenatal ultrasonography and medical history showed that enlargement was detected in the intestine of the fetus and there were polyhydramnios in the mother. The patient was followed up in the Neonatal Intensive Care Unit for clinical follow-up. An abdominal radiograph taken due to distension was evaluated as jejunal atresia (Figure 1). The patient was operated on postnatal 1st day. It was observed that there was a Type V intestinal atresia during surgery (Figure 2,3). The patient, whose general condition and nutrition was good, was discharged on the 28th postoperative day. No accompanying anomaly was detected in our patient.

Figure 1. Direct standing abdominal x-ray taken after birth. The appearance of dilated bowel lobes with air-fluid levels.

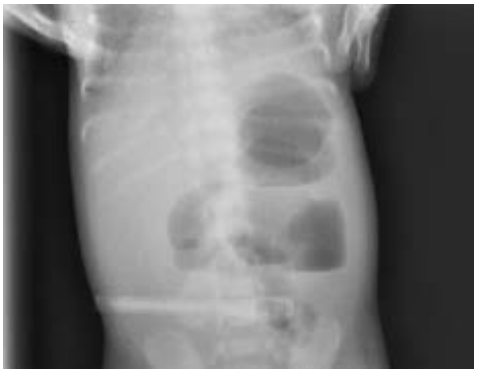


Figure 2. The appearance of the atresic area during surgery.

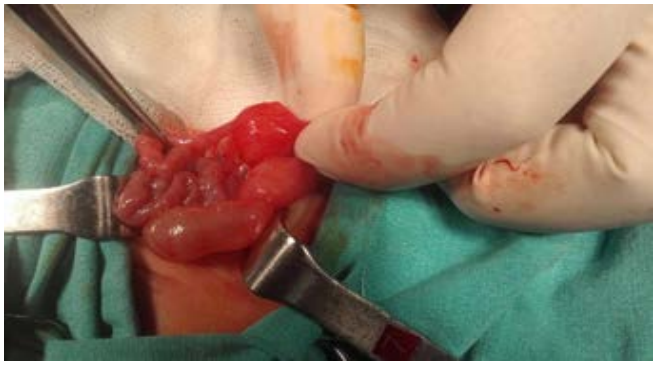


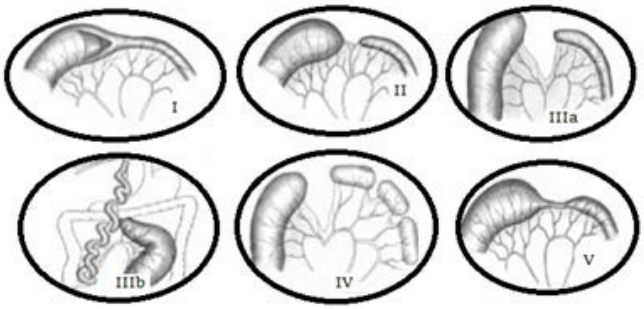
Figure 3. The appearance of the 7 cm atresic area excised with the operation.

DISCUSSION

Intestinal atresia makes up one-third of intestinal obstructions in the neonatal period. There are several theories about intestinal atresia etiology. It was originally thought to have occurred as a result of an ischemic event that occurred during the prenatal period, such as intussusception or volvulus. There are currently two major theories in etiology. The Tandler concept, known as leakage in vacuolization in the solid cord phase of intestinal development, and Louw and Bernard's classic studies showing that late intrauterine mesenteric vascular failure is the cause of most small intestine and colonic atresia. While the most common cause of duodenal atresia is considered to be a leak in vacuolization, other interesting studies show that small bowel atresia occurs as a result of intestinal volvulus, intussusception, internal hernia, and tight gastroschisis or omphalocele defect. However, jejunal atresia has been reported to be associated with volvulus without mesenteric vascular anomaly.[4-9]

Small bowel atresia is generally classified into 5 types. Type I (web causing complete occlusion), type II (proximal and distal segments separated by a cord), type IIIa (complete separation with mesenteric defect), type IIIb (complete absence of distal small intestine mesentery with proximal jejunal atresia, also called "*Christmas tree*" or "*apple peel*" atresia), type IV (multiple atresias) and type V (stenosis) (Figure 4).[10,11]

Figure 4. Schematic view of atresia types.



Signs of small bowel atresia begin with polyhydramnios in the prenatal period. Dilated stomach and duodenum are detected in the prenatal period as a result of amniotic fluid swallowed after the polyhydramnios. In infants, complaints of bile vomiting, abdominal distention, jaundice, and inability to extract meconium (70%) are observed 24-48 hours after birth. Bile vomiting is a little more common in jejunal atresia. Upper abdominal distension may be associated with proximal jejunal atresia. In distal atresia, respiratory distress may occur due to severe distension and diaphragmatic elevation.[12,13] In our case, polyhydramnios and dilated intestine were detected in the prenatal period. Dilated bowel segments were seen along with air-fluid levels in the direct abdominal x-ray taken after birth. Our patient had upper abdominal distension (Figure 1).

Surgical treatment of small bowel atresia involves end-to-end anastomosis with proximal resection and minimal antimesenteric tapering arthroplasty.[13] Our patient was successfully operated. The area with atresia was excised, 7 cm intestine was removed (Figure 3). Prognosis of jejunal atresia and comfort in other stages of life basically depends on two conditions. First, the presence of concomitant anomalies (especially major anomalies such as heart, urinary, vertebrae). Secondly, short bowel syndrome developing after surgical treatment and complications related to parenteral nutrition. These complications can be minimal or severe enough to go to liver failure.[13] No additional anomaly was detected in our case. Short bowel syndrome was not observed in our patient who was followed up for 28 days postoperatively.

In conclusion, when polyhydramnios and dilated intestine were detected in prenatal follow-up, delivery should be performed in a center with pediatric surgery. In addition, jejunal or intestinal atresia should be kept in mind in any case of abdominal distension and biliary vomiting after birth. When the diagnosis was made, pediatric surgery should be consulted as soon as possible.

CONFLICTS OF INTEREST

None.

REFERENCES

1. Ciftci I. Jejunal Atresia: How To Diagnose. *Diagnostic and Therapeutic Study*. 2012; 1(3): 73–80.

2. Dalla Vecchia LK, Grosfeld JL, West KW, Rescorla FJ, Scherer LR, Engum SA. Intestinal atresia and stenosis: A 25-year experience with 277 cases. *Arch Surg*. 1998; 133: 490-497.

3. Anatol TI, Hariharan S. Congenital intrinsic intestinal obstruction in a Caribbean country. *Int Surg*. 2009; 94: 212 -216.

4. Berdon WE, Baker DH, Santulli TV, Amoury RA, Blanc WA. Microcolon in newborn infants with intestinal obstruction. Its correlation with the level and time of onset of obstruction. *Radiology* 1968; 90:878-885.

5. Tandler J. Zur entwicklungsgeschichte des menschlichen duodenum in fruhen embryonalstadien. *Morphol Jahrb*. 1900; 29: 187-216

6. Louw JH, Barnard CN. Congenital intestinal atresia: Observations on its origin. *Lancet*. 1955; 2: 1065-1067.

7. Huang WC, Wang CH, Yuh YS, Chen YH, Chu CC. A rare type of ileal atresia due to intrauterine intussusception. *Eur J Pediatr*. 2007 Nov;166(11):1177-1178.

8. Gornall P. Management of intestinal atresia complicating gastroschisis. *J Pediatr Surg*. 1989; 24: 522-524.

9. Ciftci I. Jejunal atresıa associated wıth volvulus wıthout a mesenteric vascular anomaly. *Case Study Case Rep*. 2012; 2: 81-86.

10. Grosfeld JL, Ballantine TV, Shoemaker R. Operative mangement of intestinal atresia and stenosis based on pathologic findings. *J Pediatr Surg*. 1979; 14: 368-375.

11. Basaklar C. Surgical and Urological Diseases for Infant and Child. First edition. 2156 pp. Palme Yayıncılık – Medical Books, Ankara, Turkey 2006.

12. Grosfeld J, ONeill JA, Forkalsrud E, Coran A. Paediatric Surgery. 6thed. Saint Louis: Mosby, 2006.

13. Ciftci İ, Gündüz M. Small bowel atresia. Selçuk Pediatri 2013;1(1):46-49.