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Case Report

Apple peel atresia: a case report

Pradeep Balineni*, Shruthi Kamal, Prasanna Manickam, Keerthana Shivaji

Department of Surgery, Saveetha Medical College, Saveetha University, Chennai, Tamil Nadu, India

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***Correspondence:**
Dr. Pradeep Balineni,
E-mail: pradeep052191@gmail.com

ABSTRACT

A 3 days old child presented with chief complaints of bilious vomiting and abdominal distention since few hours duration. Prenatal history revealed mother to be polyhydraminos and pregnancy induced hypertensive was on treatment with labetolol. Baby was a term, emergency lscs delivery. On examination baby was active, alert and with fair hydration. On per abdominal examination abdomen was distended and dilated bowel loops were seen. On per rectal wash pale jelly stools were expelled. Baby was taken up for emergency laprotomy and found to be having illeal atresia for which resection and anastamosis is done. Post operatively baby was doing well with satisfactory weight gain. Intestinal atresias are the major cause of intestinal obstruction in cases of neonates. They may be illeal or duodenal atresia. It is hypothesized to be occurring due intrauterine vascular assault and failure of recanalization. Babies present with vomiting and abdominal distention with mother having a positive history of polyhydraminos. On examination there will be abdominal distention with dilated bowel loops. X-rays would show dilated bowel loops and ultrasound shows decreased peristalisis in the bowel loops. Emergency laprotomy and surgical resection is the treatment of choice.

Keywords: Apple peel atresia, Illeal atresia, Intestinal atresia, Intestinal obstruction, Resection, Congenital obstruction

INTRODUCTION

Intestinal atresias are the major cause of obstruction in case of neonates. They are divided into duodenal or illeal atresia based on the localtion of strictured intestinal loop in the gut. Congenital duodenal atresia is the most common type with a incidence of 1 in 3000-5000 live births.[1] Illeal atresia and duodenal atresia occur due to intrauterine vascular assault or failure of recannalization respectively.[1] These babies present in the first few days of life with abdominal distension and vomiting, some mothers also have a history of maternal polyhrdraminos. Surgical resection and anastamosis is the treatment of choice for these babies.[2]

CASE REPORT

A 3 day old female child presented with complaints of bilious vomiting, abdominal distension for few hours duration. On antenatal history, mother was a case of Pregnancy induced hypertension and was on Labetalol. Antenatal ultrasonography revealed polyhydramnios. Baby was a full term. Emergency LSCS birth with a birth weight of 2.75 kgs. On examination baby was alert, active and with good hydration. Abdomen was soft, distended and non tender. Anus was patent and rectal wash expelled pale jelly stools. Blood investigations were normal except for prolonged PT, APTT and INR for which two doses of Inj.Vit K (0.5 ml) was given. Abdominal radiograph showed dilated stomach and small bowel loops with no rectal gas shadow (Figure 1 and 2). Ultrasound showed no malrotation of gut. An exploratory laparotomy was performed with a working diagnosis of small bowel atresia. There was a dilated proximal ileum with apple peel configuration of 40cms of distal ileum with coiling of the collapsed loops around a single vascular supply (Figure 3, 4) with a mesenteric defect. A collapsed microcolon was seen distal to the atresia.

Dilated proximal ileal loops were resected and end to cut back anastamosis was done with the distal loop with 5-0 vicryl. Baby passed stools on POD-2 and oral feeds were started on 5th postoperative day and were gradually stepped up. On a 3 month follow up of baby, wound was healthy and baby gained weight satisfactorily.

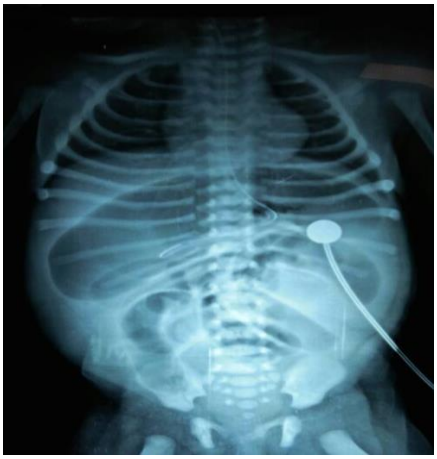

Figure 1: Dialated bowel loops.

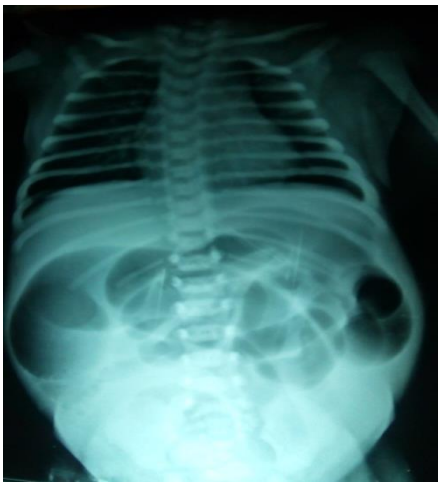

Figure 2: Dialated bowel loops increased in number.

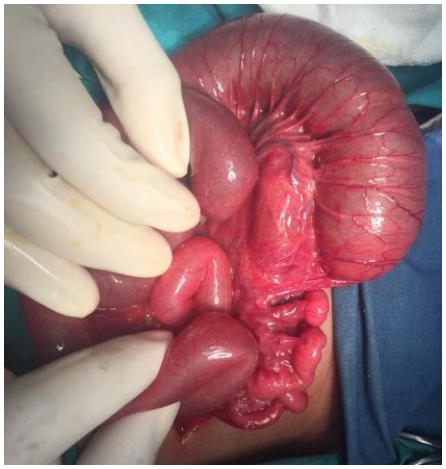

Figure 3: Apple peel atresia of the small bowel.

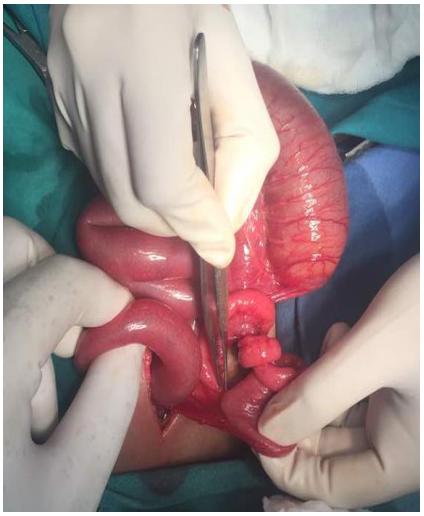

Figure 4: Apple peel atresia with mesenteric defect.

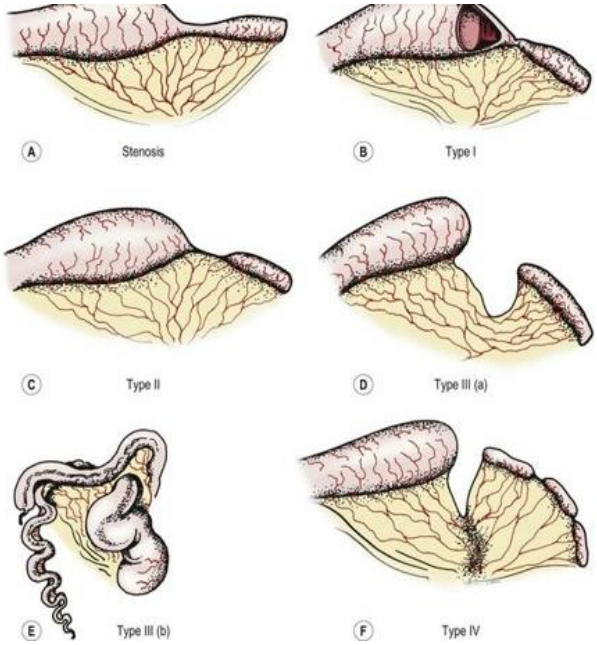

Figure 5: Diagrammatic representation of small bowel atresia.[12]

DISCUSSION

Apple peel atresia is the rare form of atresia with a incidence of 0.7-0.8% in 10,000 live births accounting to 5-10 % of all intestinal atresias.[2,3] There is a noted high incidence of atresia in cases of premature babies.

They are genetically inherited in a autosomal recessive order.[1,4] Etiologically duodenal atresia is believed to be occurring due to failure of recanalisation of the intestinal buds, this hypothesis was proposed by Tandler in 1900.[1] Jejunal and illeal atresia occur due to a intrauterine vascular assault due to placental vascular anomalies, clamping of umbilical vessels in omphalocele and by drugs causing vasoconstriction.[2,4,5] Vascular hypothesis was described by louw and barnard, it has a limitation as

of how an isolated vascular assault causes ischemia with such extensive vascular anastomosis.[2,5,6] Intestinal atresia are generally associated with other anomalies as stromme syndrome, multiple atresias, cystic fibrosis, malrotation and low birth weight.[1,7-9]

These neonates present with bilious vomiting, abdominal distention, not passing meconium, visible intestinal peristalisis, respiratory distress due to severe abdominal distention. They are diagnosed with abdominal radiographs which show double bubble sign due to distention of stomach and proximal bowel loops.[4] Antenatally it can be diagnosed by ultrasound and MRI which shows dialated bowel loops and polyhydraminos.[6,7] Contrast enema can be given to rule out distal atresia[4]. The current surgery performed is resection of dilated proximal bowel loop and primary anastomosis.[6,7]

Intestinal atresias are classified by Grosfeld modified Louw classification (Figure 5). Type 1 has mucosal atresia, type 2 connected by fibrous bands, Type 3 two separate bands with mesenteric defect, 3(a) only defect 3(b) apple peel atresia, type 4 multiple atresia with mesenteric defects. The present case is a type of apple peel atresia or Christmas tree atresia as described by some authors.[1] This was first reported by Santulli and Blanc in 1961.[6] They are characterized by occlusion of bowel, mesenteric defect and wrapping of small bowel loops around a single vascular pedicle.[4] Isolated apple peel atresia has a poor outcome with complication rate of 63% and mortality rate of 54%.[1]

Outcome of intestinal atresia depends on site and type of atresia with isolated jejunal or duodenal atresia having a good prognosis and apple peel atresia carrying a poor outcome.[2] If the neonates with apple peel atresia survive the operative and post operative period morbidity due to malnutrition they are likely to have a normal growth and development.[10]

CONCLUSION

Isolated apple peel atresia are very rare to occur and has a very poor outcome hence early detection of the problem and surgery for the neonate would decrease the post surgical morbidity and may provide a near normal quality of life.

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