CASE REPORT

SEGMENTAL DILATATION OF SMALL BOWEL

A. Narendra Kumar¹, Lavanya Kannaiyan², Venkateshwar Perugu³

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ABSTRACT: We present a rare case of antenatally diagnosed intestinal obstruction and its postnatal management.

KEYWORDS: Segmental Dilatation of bowel, Megaileum.

INTRODUCTION: Segmental Dilatation of small bowel is a rare but well documented entity. It is usually antenatally detected as small bowel mass or obstruction. The postnatal symptoms may not correlate with the antenatal diagnosis.

CASE REPORT: New born female child presented with an abdominal distention and constipation at 36 hours of life. On presentation the child had a mass palpable per abdomen. X-ray abdomen was done which showed a large cystic structure with air fluid levels in the right side of the abdomen pushing the bowel loops to the left (Figure 1). An ultrasound abdomen done was suggestive of mesenteric cyst. The children underwent a laparotomy on Day 3 of life. Intra operatively, there was a segmental dilatation of the ileum 10 cm in diameter, 20cm from the ileocaecal junction. There was no luminal obstruction. There were no abnormal vessels. The dilated segment was uniformly dilated. The rest of the small bowel and colon were normal in caliber (Figure 2). The dilated segment was excised and intestinal anastomosis was done. The child was allowed oral intake by day 5 and was discharged on the 8th postoperative day. The histopathological examination showed increased goblet cells, attenuation of smooth muscle and absent ganglion cells in the dilated segment (Figure 3). The proximal and distal non-dilated segments showed the presence of normal ganglion cells and nerve plexus.

DISCUSSION: Segmental dilatation of intestine (SDI) is also known as mega ileum, ileal dysgenesis or giant meckels' diverticulum. It is usually associated with omphalocele.⁽¹⁾ The bowel is three to four times the normal diameter.⁽²⁾ Swenson and Rothauser proposed the following criteria to diagnose segmental dilation of small bowel:

1. limited bowel dilatation with a 3-to4-fold increase in size,
2. Abrupt transition between the dilated segment and normal bowel,
3. No intrinsic or extrinsic barrier distal to the dilatation,
4. A clinical picture of intestinal occlusion or subocclusion,
5. Normal neuronal plexus and 6. Complete recovery after resection of the affected segment.⁽²⁾

The Etiology is Theorized to Arise from:

1. Extrinsic intrauterine obstruction,⁽³⁾
2. Vitellointestinal bands,⁽⁴⁾
3. Local neuropathy or myopathy,⁽⁵⁾ and
4. Probable vascular accidents resulting in myopathy,⁽⁶⁾ It is important to rule out the presence of Hirschsprung's disease, duplication of bowel or Meckel's diverticulum.

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SDI is usually discovered in the neonatal period.^(1,7) The child may present with an antenatal diagnosis of mass abdomen (as in our patient) or postnatal mass abdomen or neonatal obstruction. In older children they may have persistent anemia, protein losing enteropathy (From ulcerations due the heterotopic mucosa)⁽⁸⁾ or with associated Hirschsprung's disease.^(1,7) In our patient, the proximal bowel and distal bowel were normal in caliber, the colon appears to be normal in size and thickness, hence ruling the presence of total colonic aganglionosis. The diagnosis is usually made intraoperatively. An X-ray abdomen can show a persistent dilated loop. An ultrasound or CT of the abdomen may show the dilated loop.⁽⁸⁾

Some studies have reported the presence of heterotrophic mucosa like gastric or pancreatic akin to duplication of bowel or Meckel's diverticulum.^(1,6,7) In our patient the dilatation was saccular, with a single cavity with proximal bowel entering and distal bowel exiting. The histopathology showed no evidence of heterotrophic mucosa, thereby ruling out the diagnosis of duplication of bowel.

Saha et al⁽⁶⁾ proposed that there may intrinsic myopathy that leads to the segmental dilatation of the bowel. On histopathological examination of the dilated segments attenuation the smooth muscle along with absent ganglions cells were seen.

The treatment is straight forward with resection and anastomosis of the bowel segment. The post-operative recovery was uneventful. At follow up for three months, the child is thriving well.

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Figure 1: X-ray abdomen showing a large cystic structure with air fluid levels in the right side of the abdomen pushing the bowel loops to the left.

Fig. 1

Figure 2: Intraoperative picture showing the dilated segment of ileum and normal caliber proximal and distal ileum.

Fig. 2

Figure 3: Histopathological picture showing increased goblet cells, attenuation of smooth muscle and absent ganglion cells in the dilated segment.

Fig. 3

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AUTHORS:

1. A. Narendra Kumar
2. Lavanya Kannaiyan
3. Venkateshwar Perugu

PARTICULARS OF CONTRIBUTORS:

1. Chief Pediatric Surgeon, Department of Paediatric Surgery, Lotus Children's Hospitals, Hyderabad, Telangana, India.
2. Paediatric Surgeon, Department of Paediatric Surgery, Lotus Children's Hospitals, Hyderabad, Telangana, India.

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3. Paediatric Surgeon, Department of Paediatric Surgery, Lotus Children's Hospitals, Hyderabad, Telangana, India.

NAME ADDRESS EMAIL ID OF THE CORRESPONDING AUTHOR:

Dr. A. Narendra Kumar,
#304, Lake Villa Apartments,
6-3-1186/87, Green Lands,
Begumpet, Hyderabad-500016,
Telangana, India.
E-mail: naren.are.1961@gmail.com

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