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Case Report

Double Intussusception of Ileum Through Patent Vitellointestinal Duct: Case Report

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Abstract: A patent vitellointestinal duct is an uncommon condition and its persistence can result in different vitelline duct anomalies, most common of which is meckel's diverticulum. Patent duct with prolapse of bowel through it is a very rare condition. Here we present a case of double intussusception of ileum through patent VID in a 31 day old boy. The boy had history of cough which increases the intra abdominal pressure and causes the prolapse through the patent VID. Because there was some ischemic segment of bowel and the defect was wide we do resection and end to end anastomosis. The case is a very rare condition. Its incidence, diagnosis and treatment will be discussed.

Keywords: Vitellointestinal Duct, Intussusception, Anastomosis

1. Introduction

At around the third weeks of embryonic life communication exists between the midgut and the yolk sac which narrows to a narrow tube called vitellointestinal duct. This duct usually gets obliterated by the end of seventh week. Persistence gives a spectrum of congenital anomalies like sinus, cyst, band, fistula, diverticulum etc. The commonest of these is when it fails to regress on the anti mesenteric boarder of the ileum called meckel's diverticulum. Patency of VID is a very rare condition and prolapse of bowel through it is even rare and could result in strangulation.

2. Case Presentation

A 31 day old male baby presented with prolapse of bowel through the umbilicus of three days duration. He was born from Para 7 mother. The mother didn't notice any discharge from the umbilicus until three days of her presentation where she notices the bowel starting to prolapse. He was passing stool per anus. He has two episodes of vomiting of ingested matter and intermittent crying. The baby has also recent history of cough of 4 days duration.

On examination he was tachycardic and there was no abnormality detected on other systems except on the abdomen. There was a y shaped prolapse of bowel through the umbilical ring which is fixed to the abdomen. And there was a yellow-greenish discharge from one end of the bowel. On palpation and careful examination of the bowel it was ischemic and the mucosa of the bowel was the one which is visible. We admit him, secure iv line and resuscitate and we get consent from the mother for operation and we took him to the OR.

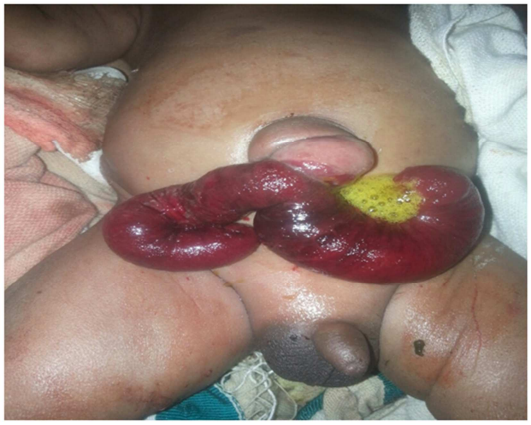

Fig. 1. *The y shaped bowel prolapsed through patent VID.*

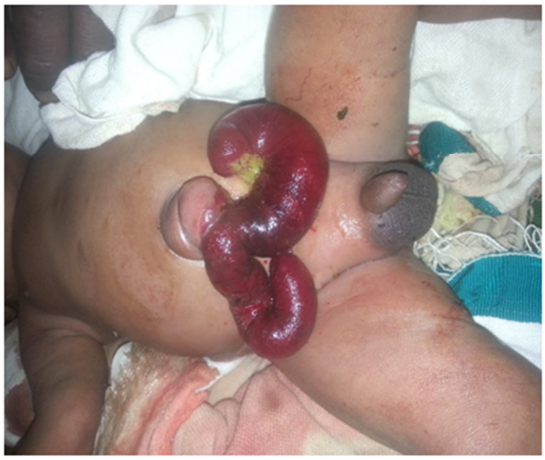

Fig. 2. *Ischemic prolapsed bowel on examination in emergency department.*

In the meantime we cover the exposed bowel and its mucosa with warm saline soaked gauze. After general anesthesia is given we prepped and draped the surgical field.

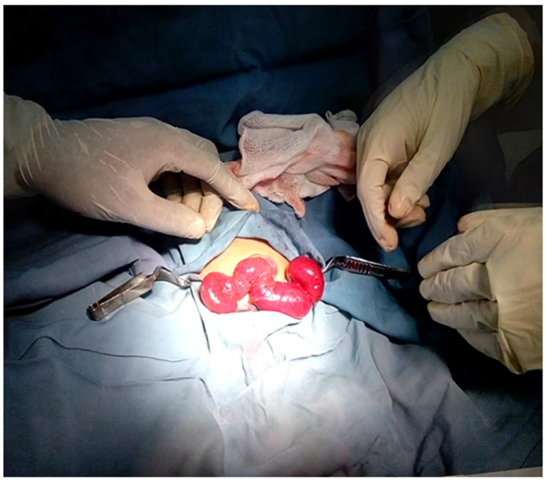

Fig. 3. *View of the bowel after warm saline soaked gauze application.*

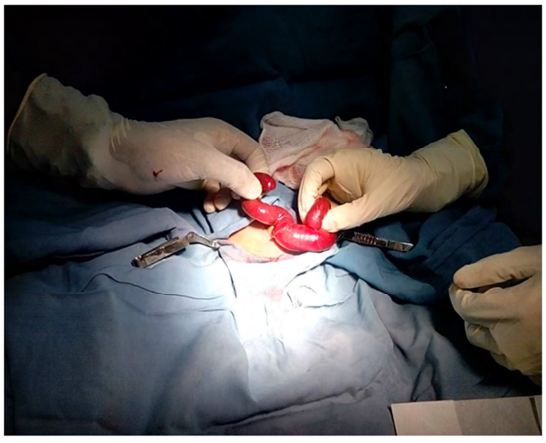

Fig. 4. *Similar view of the bowel after warm saline gauze applied.*

Through small circum umbilical incision we dissected the bowel from the skin and we freed the bowel. There was an opening of the distal ileum to the skin through which both the proximal and distal ileal loops are intuscussupted. There was only short segment of the distal ileum around 2 cm that is not prolapsed. We reduce both the proximal and distal ileum by applying gentle traction and milking from the apex.

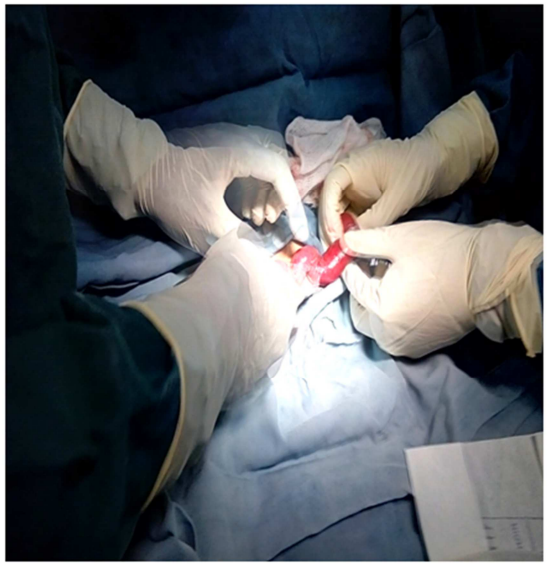

Fig. 5. *Reduction of the bowel after circumumbilical incision.*

After reduction we inspected the segment that was ischemic and it was returned viable. So we resect the segment of bowel containing the defect and we do end to end ileoileal anastomosis and do umbilical reconstruction.

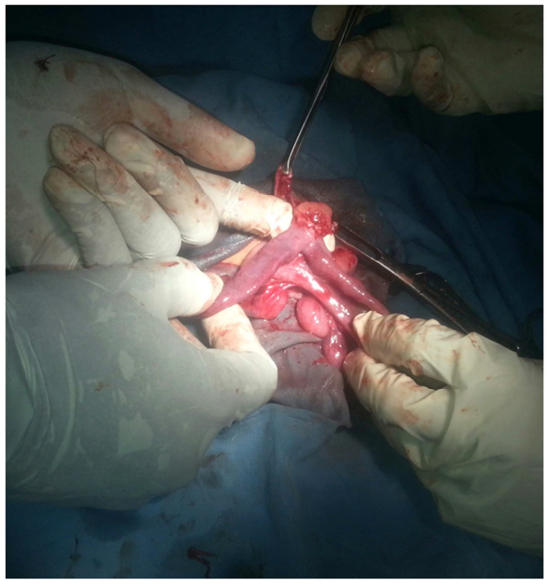

Fig. 6. *Intra operative view of the patent duct.*

The baby was transferred to pediatrics side and stayed for 6 days in pediatric ward and discharged with appointment given after one weeks. And the baby was fine during his visit in the clinic.

3. Discussion

Vitelline duct or also called omphalomesentric duct is tube

that joins the yolk sac to the midgut lumen of developing embryo. It appears at around third week and starts to obliterate by 7th week of gestational age. Failure of obliteration will result in variety of congenital anomalies like meckel diverticulum, omphalmesentricband, umbilical sinus, omphalomesentric duct cyst or bleeding umbilical mass [1-4]. Patient can present with the anomaly itself or due to complications like obstruction due to intussuscuption, volvulus or adhesions [6, 7]. A persistence of this duct or a patent VID is a very rare anomaly and is called omphalomesentric duct or vitelline fistula. There are only few case reports of prolapse of bowel through patent VID and double intussusception is very rare [8, 9] anomaly and we couldn't find a report from our country.

Patent VID may present itself as a discharge from the umbilicus starting from the time of birth. If the defect is wide or if there is predisposing conditions that increase intra abdominal pressure loops of the ileum can prolapse through it [7, 10]. And when both the proximal and distal parts of the loops prolapsed through it double intussusception will result. If this is not detected and intervened early can result in obstruction, strangulation and gangrene of the bowel. So surgical intervention is the treatment and the management can be reduction of the bowel and primary closure of the defect if the defect is small and there is no gross edema. Another option is primary resection of the segment containing the defect and end to end anastomosis. If the patient arrives late and the bowel is edematous exteriorization as a loop ileostomy through separate skin opening in the RLQ can be done [7].

In this case the length of the duct is shorter and the mouth is wider and after reduction of the ischemic segment there was small segment of bowel that remain ischemic so resection and end to end anastomosis was done.

4. Conclusion

Double intussusception through patent VID is a very rare anomaly. Prolapse of the bowel through the patent duct can be precipitated by factors like increased intra abdominal pressure and if the condition is not detected early can result in strangulation and gangrene of the segment that needs resection with primary anastomosis or exteriorization as ileostomy. But with early diagnosis and intervention simple repair of the defect can be done if the defect is small.

Author Contribution

Nuru A. management and writing of the manuscript.

Endris A. manuscript editing.

Both authors admit and managed the patient, both authors read and approved the final manuscript.

Abbreviations

VID: vitellointestinal duct

Acknowledgment

Thanks for the patients mother for giving this permission to publish the case report.

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Biography

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