CASE REPORT

An unusual presentation of patent vitello intestinal duct- Vitelline cyst and Meckel's diverticulum- A case report

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Abstract:

Meckel's diverticulum is the most frequent congenital anomaly of gastrointestinal tract. Vitellointestinal duct anomalies are found in almost 2 percent of population. Meckel's diverticulum along with vitelline cyst is rarely found. Usually they are found incidentally when patient is operated for other causes of acute abdomen like acute apppendictis. Pre operative investigations can reveal such anomalies. Symptomatic meckel's diverticulum requires surgery.

Case Report:

Here we present case of Meckel's diverticlum with vitelline intestinal duct cyst found incidentally in patient operated for acute appendicitis in a 14 years old boy on 19th September 2019. Studies have revealed different surgical treatment methods for symptomatic Meckel's diverticulum.

Keywords: Meckel's diverticulum, patent vitello intestinal duct anomaly, vitelline cyst.

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Introduction:

Vitelline intestinal duct is a structure that in embryological life connects midgut to the yolksac.[1] Usually in between 5th and 9th week of gestation it obliterates and disconnects from intestine.[2] This process starts at the umbilical site and finishes at the intestinal site. Any disturbance in this process results in vitelline duct pathology.[3] Vitelline duct abnormalities can present in variety of ways like vitelline cyst, Meckel's diverticulum, fibrous cord or umbilical sinus. Sometimes vitello intestinal duct remains patent and presents as omphalomesenteric fistula in which small bowel contents discharge from umbilicus.[4] Meckel's diverticulum is a true diverticulum containing all the layers of intestinal wall, usually found at the anti-mesenteric border.[5] Usually rule of two follows in Meckel's diverticulum. It is found 2 feet from illeocecal junction, present in 2 percent of population, usually discovered before 2 years of age, 2 inches in length, 2 cm wide and contain 2 types of mucosa namely ectopic gastric and pancreatic mucosa.[6] Such anomalies require surgical correction. Here we represent a rare case of Meckel's diverticulum along with vitelline cyst found incidentally in patient opened for acute appendicitis.

Case Report:

A 14 years old boy was brought to emergency with complain of pain in right lower quadrant of abdomen along with vomiting for the last 2 days. Pain started from umbilical area and then shifted to right lower quadrant. Past medical and surgical history was not significant. On clinical examination there was tenderness in right iliac fossa along with rebound tenderness. Laboratory investigations showed that total leukocyte count was increased. Patient was taken to operation theatre. Operated through gridiron incision a phlegmonous appendix was found. When looking for small gut abnormalities, gut could not be mobilized as was suspected to be attached to anterior abdominal wall. Patient was opened through lower midline wound and a patent vitello-intestinal duct with a vitelline cyst was found (Fig1) . Vitelline cyst was attached to umbilicus and patent vitello-intestinal duct had

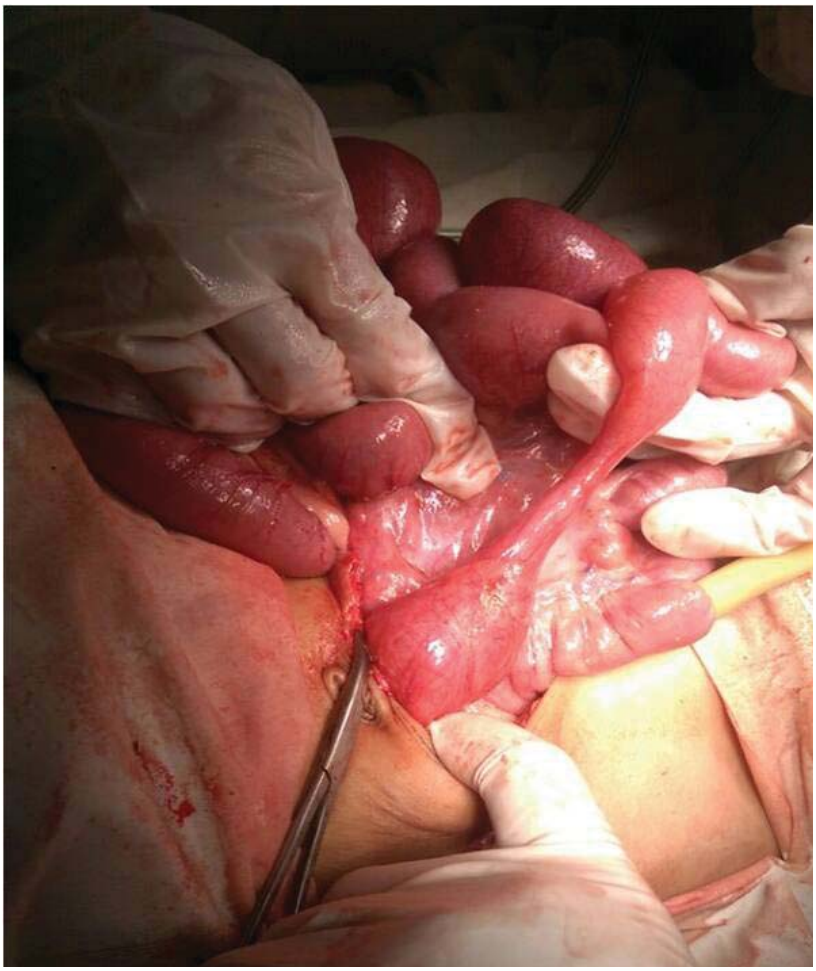

Figure 1: Patent vitello intestinal duct with vitelline cyst

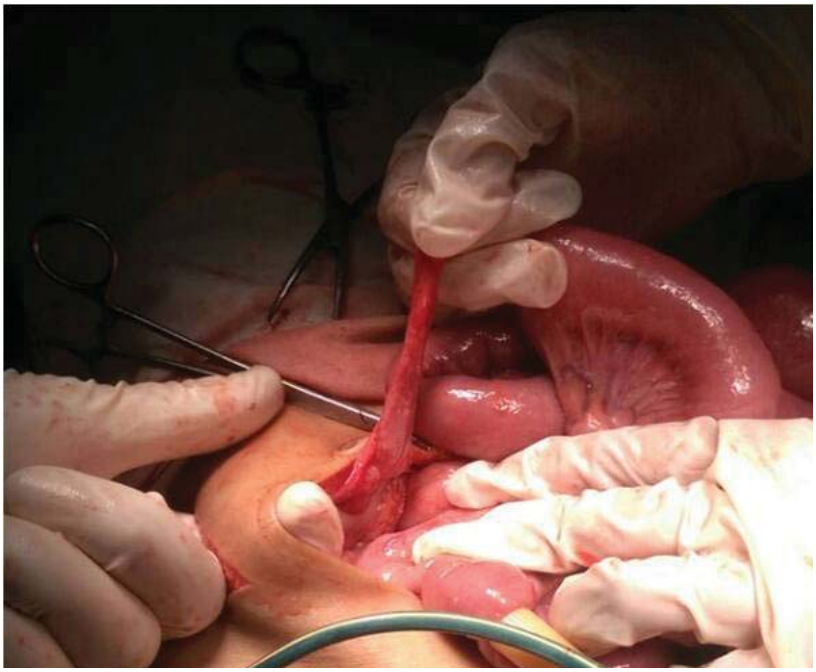

Figure 2: Patent vitello intestinal duct with vitelline cyst

narrow base at intestinal wall(Fig 2). This Meckel's was found 2 feet from illeocecal junction at anti-mesenteric wall. Vitelline cyst was separated from umbilicus while meckel's diverticulum was removed by wedge resection followed by primary repair of gut wall. Specimens were sent for histopathology. Patient was admitted for 5 days and had recovered without any complication. Histopathology shows inflamed appendix and Meckel's diverticulum with vitelline cyst. He was followed for one year.

Discussion:

Meckels diverticulum was first described by Fabricius Hildamus in 1598. But Johann Friedrich meckel explained the embryological origin and anatomy, therefore it is named after him.[7] Meckel's diverticulum is remnant of vitelline or omphalomesenteric duct that connects midgut to yolk sac during development. Failure of obliteration of omphalomesenteric duct results in abnormalities. The position of Meckel's diverticulum is usually 90 to 100 cm from illeocecal junction. Meckel's diverticulum is a true diverticulum containing all the layers of intestinal wall. Its blood supply arises from illeal vascular network and has a separate mesentery. Our patient had Meckel's narrow base Meckel's diverticulum approximately 2 feet from illeocecal junction.[8]

It is quite difficult to diagnose meckel's preoperative. Ultrasonography and CT scan are non invasive and frequent mode of investigation. Usually it is found incidentally when operated for other causes of acute abdomen. In our case such rare entity was found when patient underwent appendicectomy.

Meckel's diverticulum remains usually silent but can present with variety of conditions like gastro-intestinal bleed, intussuception, diverticultis, intestinal obstruction.[9] Meckel's diverticulum with vitelline cyst is rarely found together. Different studies have revealed different treatment methods for symptomatic vitello-intestinal duct abnormalities. Open as well as laparoscopic approach can be used for the treatment.[10] Laparoscopic approach has gained popularity in un-

complicated cases. In our case we found meckel's diverticulum with vitelline cyst incidentally.

Conclusion:
Meckel's diverticulum is the most common gastrointestinal anomaly. Meckel's diverticulum with vitelline cyst is uncommon pathological findings. Symptomatic meckel's diverticulum require surgery.

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Role and contribution of authors:
Dr Sameeah Hanif, conceived the concept, did researcher search, and did the initial write up.

Dr Soweba Hanif, critically review the article and made final changes.

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