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A CASE REPORT VITELLO-INTESTINAL DUCT FISTULA – A RARE PRESENTATION OF A PATENT VITELLO-INTESTINAL DUCT.

General Surgery

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ABSTRACT

Patent Vitello-Intestinal Duct (VID) results as of failed obliteration of the fetal omphalocele coelom (herniated loops of intestine in the umbilical cord) during the development of the midgut. Herein, we report a case of a male child who presented at 5 year of age with history of persistent fecal discharge from umbilicus since birth.The VID fistula was confirmed with a ultrasound and a wedge resection with primary anastomosis was done for it. The child was discharged 5 days postop without any complications. This case report highlight a rare cause of umbilical discharge for which surgical intervention was required.

KEYWORDS

Umblical Discharge, Vitello-Intestinal Duct, Vitello-Intestinal Duct fistula

INTRODUCTION

The VID(vitellointestinal duct) is a remnant of fetal vitelline duct that fails to obliterate resulting in a persistence of the communication between the midgut and the umbilicus. During physiological herniation around 4-5 weeks of gestation, the midgut returns into the peritoneal space in a counter-clockwise rotation. During the return of the midgut, the umbilical cord becomes visible and is reorganized. The vitellointestinal duct (VID) and vessels involute and various layers of mesenchyme become fused and gradually transformed into Wharton's jelly which later becomes the matured umbilical cord. Any form of abnormal rotation or failure of obliteration of the intestinal duct during this stage of development could result in wide range of congenital midgut anomalies, such as patent VID vitello-intestinal duct[1]. Another rare condition which results from incomplete obliteration of the fetal viteline duct is Meckel's diverticulum which occurs in approximately 2 percent of live births[2]. Other associated anomalies with abnormal VID development include malrotation, small bowel atresia and stenosis.

CASE REPORT

A 5 year old male child presented with complains of fecal discharge and swelling over umbilicus since birth. Examination revealed a male child with a pea sized lump over umbilicus which was raised and pink in color with minimal surrounding erythema.[Figure 1]. Scanty fecal discharge was also noted from the swelling on abdominal palpation around the umbilicus. A diagnosis of patent vitellointestinal duct (VID) was made on clinical assessment which in our setting required further investigation. A ultrasonography abdomen was done and the patent VID was confirmed as shown below[Figure 2].

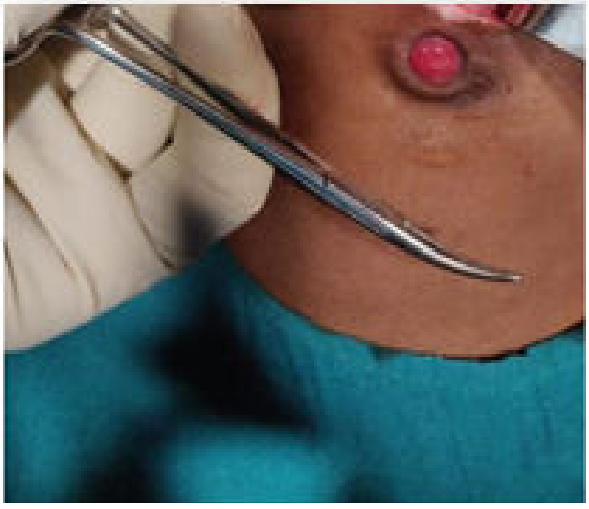

Figure1- Presentation of patient

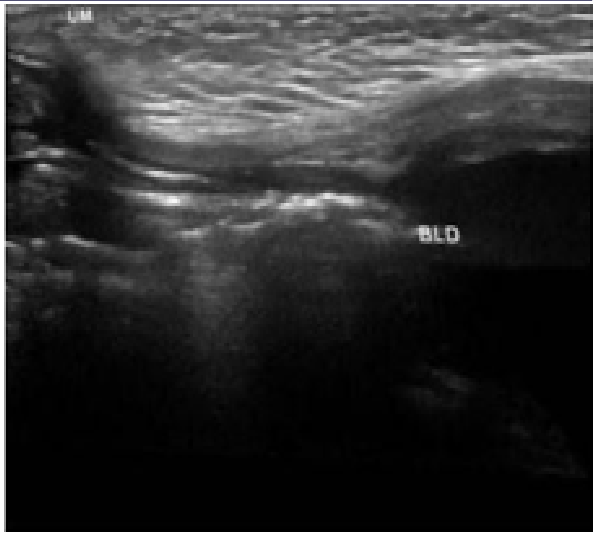

Figure 2 - Patent VID was seen on ultrasonography abdomen

SURGICAL PROCEDURE

A longitudinal periumblical incision was made to access the patent VID. [Figure 3]. At the enteric end of the patent VID, a wedge resection of the communication was performed and primary anastomosis was done. Umbilical end of the fistula was approached from within outwards and the resected segment of patent VID was mobilized[Figure 4] and pulled through by a separate incision made around the granuloma within the umbilical pit. Primary closure of both abdominal wound (the initial periumblical and umbilical wounds) was done.

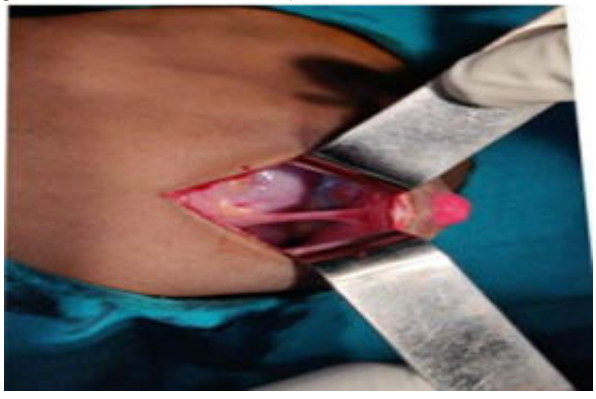

Figure 3- Periumblical incision was made to access patent VID

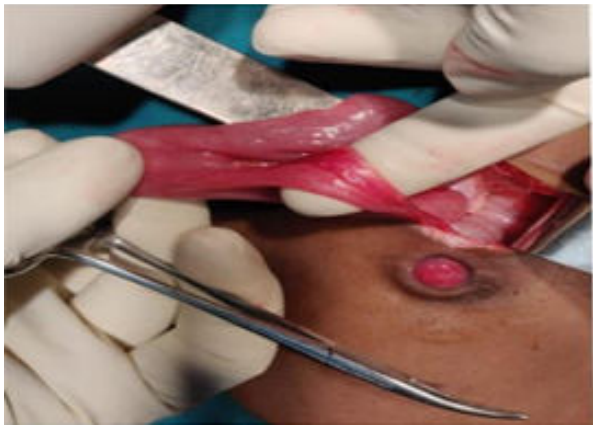

Figure 4- intra operative image of patent VID

DISCUSSION

PRESENTATION OF THE PATIENT

A patent vitello-intestinal duct (VID) can present as discharging umbilical sinus, umbilical nodule or polyp. There may be associated cellulitis, which in rare cases can rapidly progress to necrotizing fasciitis and severe sepsis.

INVESTIGATIONS

Ultrasound, CT scan abdomen with contrast, Fistulogram

MANAGEMENT

Various surgical operative interventions have been described for the patent VID. The umbilical approach to VID has been reported through one of the three approaches: a circular incision around the umbilicus with excision of umbilicus and umbilicoplasty[3]. Infraumblical incision without umbilical excision so the patient retains the umlicus[3,4]. A circular incision around umbilicus without umbilical reconstruction, hence the patient losses the umbilicus[5]. These approaches allow the patent VID to be mobilized and then a decision can be made as to how the patent VID is to be resected. Options for resection are either a wedge resection or segmental small bowel resection. In this case, the approach used preserved the umbilicus preventing the need for umbilical reconstruction.

CONCLUSION

Patent vitellointestinal duct (VID) should be considered in the differential diagnoses of any case presenting with a persistent umbilical discharge. Further investigation such as fistulogram ,ultrasound is appropriate if clinically indicated and technically feasible. Early diagnosis and early surgical intervention is recommended to prevent serious complications such as sepsis. The case reported here is an example of a wedge resection of the VID through an umbilical incision made around the external opening of the fistula which is a simple and straightforward option.

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