Case Report

CONGENITAL UMBLICAL FISTULA IN AN ADULT FEMALE

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INTRODUCTION

Umbilicus is the central abdominal scar and the thinnest part of the anterior abdominal wall. Umbilical discharge is the hallmark of underlying umbilical pathology. Few of the causes of umbilical discharge include infection, granuloma, dermatitis, calculus, pilonidal sinus and umbilical fistula. Umbilical fistula can be acquired or congenital. A slow leak from any viscus is liable to track to the surface at this point. Variety of congenital anomalies exist like patent vitello intestinal duct (VID) and patent urachus which can present as umbilical fistula thus it is said that umbilicus is one of the commonest site for fistulous communication.

An unusual case of umbilical discharge in an adult female is being reported secondary to patent VID. Failure to identify the tract lead to increased morbidity in this patient.

CASE REPORT

36 years old female, post operative case of omphalectomy for umbilical discharge, presented to us from periphery with generalized abdominal pain, 3 days after surgery. Pain was of gradual onset, all over abdomen, moderate intensity and was associated with vomiting. In her past history she was having discharge from the umbilicus, off and on for the last 2 years. Discharge usually occurred once or twice a week, was scanty in amount, brown in colour and used to stain her clothing. The discharge was not foul smelling and was associated with occasional itching around umbilicus. She also gave history of passage of worms from the umbilicus twice in this period. She did not give history of any urinary problem or abdominal complaint before surgery.

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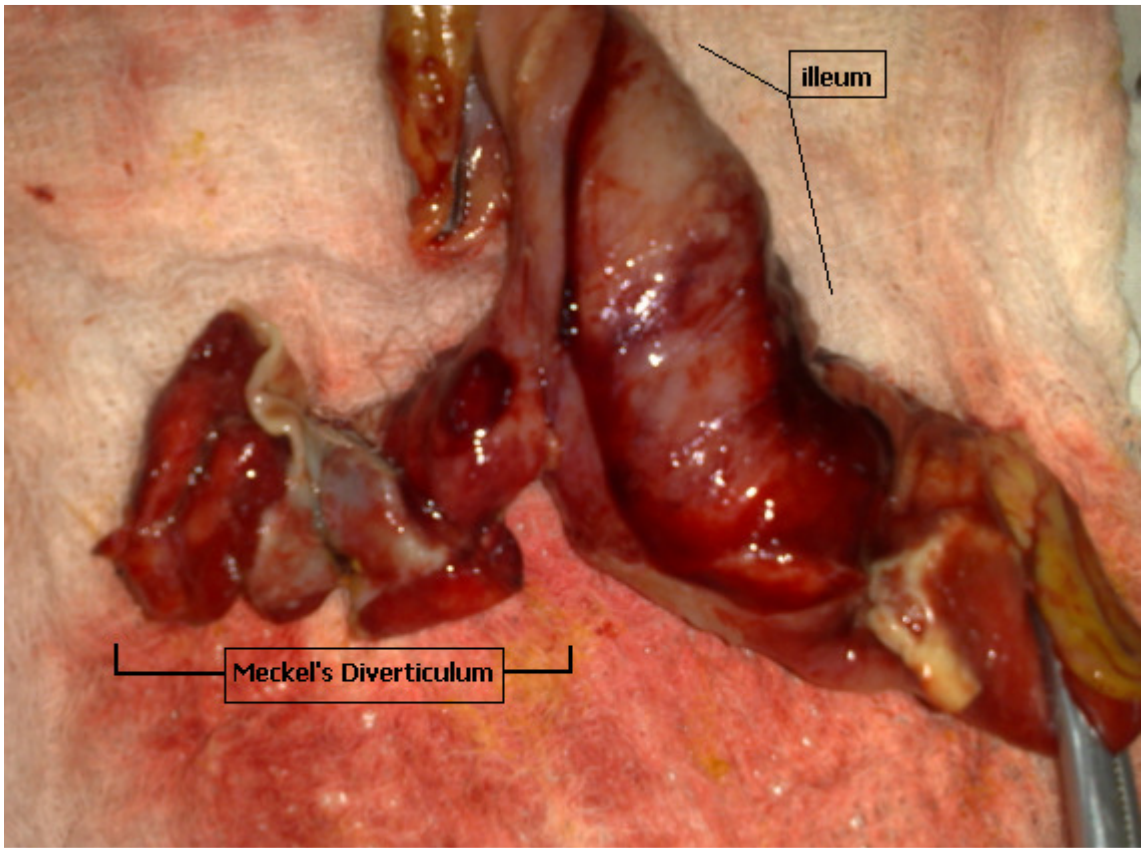
At presentation, her general physical examination showed a female with average built, pulse of 120/min, temperature of 102 F, tachypnic with respiratory rate of 26 per minute and blood pressure of 130/80 mm Hg. A transverse incision was seen at the level of umbilicus closed primarily without any signs of inflammation. Abdominal examination was suggestive of generalized peritonitis.

Her emergency investigation showed HB of 12 g/dl, TLC of 16,000 per micro liter, urea 48 mg/dl, creatinine 0.8 mg/dl. Serum electrolytes were normal. USG abdomen/ pelvis showed free fluid in moderate amount. Previous record showed normal base line, stool RE positive for ascaris lumbricoides, normal USG and barium studies. Sinogram failed because the radiologist failed to identify external umbilical opening.

After adequate optimization, she was explored in emergency via a midline incision. Pre operatively we found 500 cc turbid fluid and a meckel's diverticulum having a thin blind tract attached to it. There was no abnormality detected in rest of the gut and bladder was found to be normal.

Excision of the tract, resection of the ileum containing the meckel's diverticulum followed by primary anastamosis was done. Keeping in mind passage of worms from the umbilicus and development of peritonitis following omphalectomy, we made a final diagnosis of umbilical enterocuteneous fistula due to patent vitello-intestinal duct which was missed in the initial surgery. Post operatively, she made an uneventful recovery and was discharged on 8th post operative day. Her histopathology showed meckel's diverticulum containing ectopic pancreatic mucosa.



DISCUSSION

Umbilical discharge occurs due to many reasons, but in adult population the patent VID is very unusual. Meckel's diverticulum is the most common VID anomaly, with a prevalence of 2% of the population. VID associated anomalies can cause discharge from the umbilicus, lower GI bleeding, intussusceptions, intestinal obstruction and volvulus. Meckel's diverticulae are blind ended in 85% of cases, attachment of embryological origin exists in 15% and 2% of these patients with the attachment of embryological origin have a patent vitellointestinal duct and the present with feacal umbilical fistula in neonatal age group. In 70% of the cases ectopic tissue is found in meckel's diverticulum. This is most commonly gastric mucosa, but pancreatic, duodenal or colonic tissue may also be found.[2]

Almost one third of world population has Ascaris lumbricoides (also known as round worm) infestation and thus it is the most common intestinal nematode. The larvae of Ascaris lumbricoides cause pulmonary symptoms and the adult worms cause intestinal symptoms. In gastrointestinal tract, it can cause malnutrition, sub acute intestinal obstruction, pancreatitis, cholangitis and even obstructive jaundice due to adult worms traveling up into the common bile duct.[3]

Many cases have been reported in the literature concerning the VID and associated anomalies. A review of the literature (in infants) revealed that 65 cases of patent VID have been reported in Japan. The male/female ratio was 2.8:1. Ten of the 36 infants (27.8%) were premature. The largest possible number of patients, 55 out of 59 cases (93.2%) under went surgery. The average length of VIDs was 3.8 cm and diameter was 1.1 cm. Ectopic gastric mucosa was found in 3 out of 30 cases (10.0%). A relatively high incidence of prolapse of ileum was found, present in 28 out of 53 patients (52.8%). Ten out of 55 patients died (18.2%); 8 of these had a prolapse of the

ileum. In view of the high mortality rate of patients with a prolapse of the ileum and the strong possibility of intestinal obstruction, patent VID merits surgical resection.[4]

Patent VID is not an infrequent abnormality in children. The most common presentation is of fecal discharge at umbilicus. Round worm infestation is very common in Indian children. Patients with patent VID and round worm emerging from the umbilicus is unique presentation. A case has been reported in a 2-year-old boy with patent VID who presented with a history of round worms coming out through the umbilicus.[5]

Patent VID becomes symptomatic early in life, mostly in first two years and without treatment, symptoms may persist through adult years as well.[4] The patent VID with meckel's diverticulum has male predominance of 9:1[6]. In our case, the patient was a female and we have failed to find any case of fecal umbilical fistula secondary to a patent VID presenting in adult population.

In a case report by N.K. Mahato, fibrous remnant of the vitellointestinal duct was detected in an adult male cadaver (about 60 years) during routine dissection for undergraduate students in the Department of Anatomy at Sri Aurobindo Institute of Medical Sciences (SAIMS), Indore, India. The intestinal attachment revealed a band passing beyond the loop of the distal ileum towards the mesentery. The attachment on the anterior abdominal part exhibited an extra-peritoneal extension towards the umbilicus. The umbilicus was absolutely normal when observed from the exterior.[7]

Umbilical discharge has many reasons, but one should never forget the possibility of umbilical communication with the gut in the management of such patients. This is true even when the discharge is scanty in amount, not foul smelling and patient is an adult. Histry of passage of worms from the umbilicus was an additional clue in our case which was overlooked because of normal Barium studies and USG. Patent VID, a rare but important cause of umbilical discharge can present at any age and may remain asymptomatic for a very long period of time. Investigation is of limited value and high index of suspicion with careful per operative evaluation is mandatory. Treatment should aim at excision of the tract and inspection of bowel to rule out meckel's diverticulum, bands, cysts and other associated anomalies so that the patient can be saved from developing peritonitis subsequently.

ABBREVIATIONS

Vitello intestinal duct (VID)

REFERENCES

1. Kingsnorth AN, Giorgobiani G, Bennett DH. Hernia, Umbilicus and abdominal wall. In: Williams NS, Bulstrode CJK, Connell PR (edi). *Bailey & Love's Short Practice of Surgery* 25th ed. Hodder Arnold 2008; 984-85.
2. Steele RJC. Disorders of small intestine and vermiform appendix. In: Cuschieri A, Steele RJC, Moosa AR (edi). Essential Surgical Practice Higher Surgical Training In General Surgery 4th ed. Oxford University Press Inc. 2002; 527-68.
3. Datta PK, Lal P, Bakshi SD. Surgery in the tropics. In: Williams NS, Bulstrode CJK, Connell PR (edi). *Bailey and Love's Short Practice of Surgery* 25th ed. Hodder Arnold 2008; 49-70.
4. Moore TC. Omphalomesenteric duct malformations. *Semin Peadiatr Surg.* 1996; 5(2): 116-23.
5. Surendran N, Kumar R, Nassir A. Unusual Presentation of patent vitellointestinal duct with round worms emerging from the umbilicus. *J Paediatr Surg.* 1988; 23(11): 1061-62.
6. Pinter A, Szemledy F, Pilaszanovich I. Remanants of vitelline duct: analysis of 66 cases. *Acta Paediatr Acad Sci Hung*. 1978; 19(2): 113-23.
7. Mahato NK. Obliterated, fibrous omphalo-mesenteric duct in an adult without meckel's diverticulum or vitelline cyst. *Romanian J Morphology & Embryology* 2010; 51(1): 195-97.

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