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Case Report

Omphalomesenteric Duct Remnant: Umbilical Polyp- Clinically Mimicking Umbilical Granuloma

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ABSTRACT

Anomalies related with the total or partial persistence of omphalomesenteric duct (vitelline duct) are shown in 2% of the population. Clinical presentation of the persistent vitelline duct anomalies is variable and depends upon the type of the remnant. To prevent complications, early surgical management is important.

Keywords: omphalomesenteric duct, persistent, anomalies.

INTRODUCTION

Persistence of omphalomesenteric duct (vitelline duct) can have varied presentation in the children as Meckel's diverticulum, fibrous tract, cyst within the tract or abdominal wall, umbilical sinus, umbilical granuloma or an umbilical polyp. [1] Vitelline duct has communication with the yolk sac and alimentary canal in the fetal life which should undergo obliteration by 5^{th}-9^{th} week of intrauterine life. [2] Patent duct (complete or partial) can lead to life threatening complications which requires immediate intervention. Here we present a case of 1 year 2 months old male with an umbilical swelling which was diagnosed as umbilical polyp on histopathology.

CASE REPORT

A 1year 2 months male child presented with a very small swelling in the umbilicus since birth. There was history of ulceration and bleeding on touch from the swelling. The child did not present with any watery discharge from the swelling. Clinical diagnosis of umbilical granuloma was given. General examination of the patient and the routine investigations were within normal limits. Ultrasonography showed a 10x4x4mm hypoechoic swelling in the umbilicus which was semi-solid to solid in consistency. There was no surrounding inflammation and no cyst along the line of urachus. The patient was taken for surgical excision of the swelling with secondary closure of the wound. The mass was excised and sent for histopathological examination. Histopathology of the umbilical mass: Sections studied from the umbilical mass showed stratified squamous epithelium with transition to small intestinal epithelium with surface ulceration and

granulation tissue (fig.1). The diagnosis of Umbilical polyp - omphalomesenteric duct remnant was given.

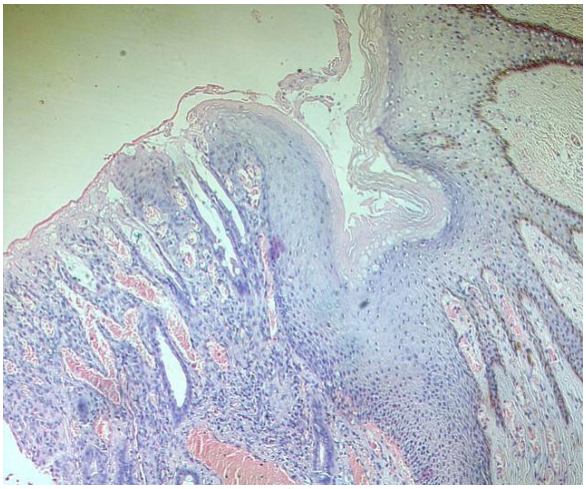

Fig.1 (H&E,10x) shows stratified squamous epithelium with transition to small intestinal mucosa and granulation tissue in a case of umbilical polyp

DISCUSSION

Lesions affecting the umbilicus can be: acquired: delayed umbilical separation, umbilical granuloma; infectious: omphalitis, umbilical vein phlebitis; congenital: omphalomesenteric duct remnant, umbilical polyp, patent urachus, umbilical hernia, dermoid cyst, umbilical dysmorphism; orneoplastic: rhabdomyosarcoma, teratoma. [3]

Anomalies related with the total or partial absence of involution of vitelline duct are shown in 2% of the population and may present at any age. [4] Cutaneous vitellointestinal duct anomalies occurs predominantly in male patients and mostly occurred in young children [5,6] similar to our case. Clinical presentation of the persistent vitelline duct anomalies is variable and depends upon the type of the remnant .In developed countries, the main forms of presentation are haemorrhage in 40–60%, obstruction in 25%, diverticulitis in 10–20%, and umbilical drainage. [7-9] The type of the drainage may indicate the origin of the lesion. Clear drainage or yellowish drainage signifies a probable urachal anomaly, whereas an omphalomesenteric duct remnant manifests as feculent drainage. The most common umbilical lesion is an umbilical granuloma, which secretes a mucoid material. [10]

Persistence of distal end of the vitello‑intestinal duct results in an umbilical polyp, which is a small excrescence of the ductal mucosa at the umbilicus. Umbilical polyp is one of the rare presentations of persistent omphalomesenteric duct associated with visceral connections and composed of gastric mucosa, intestinal mucosa, pancreatic tissue and ectopic gastrointestinal mucosa. [11] Umbilical polyp clinically presents as painless red, firm mass with mucoid or bloody secretions and resists local treatment. [2] In our case the child presented with history of bleeding on touch from the umbilical mass and the wound did not heal after primary closure. So the patient had to be taken for secondary wound closure. Umbilical polyps resemble umbilical granuloma but don't disappear after silver nitrate application. Their presence sometimes is associated with umbilical sinus, which needs surgical excision. [12] Umbilical polyp has to be differentiated from umbilical granuloma which appears dark red, bleeds on touch and responds to silver nitrate application; the other conditions to be ruled out are sarcomas, congenital and capillary haemangioma. [13]

In a study done by Pacilli M et al, where total of 53 excised umbilical lesions were reviewed , 13 cases of umbilical polyp were found.9 cases presented with bleeding from the mass with no response to topical silver nitrate; [14] the histology revealed presence of small bowel mucosa in 11 (associated with pancreatic tissue in 1 and gastric mucosa in 1) and large bowel mucosa in 2 cases. [14] In our case also histology revealed small intestinal mucosa.

The study done by Heatley [5] on a total of 19 cases of umbilical mass revealed 16 cases of umbilical polyp, 2 sinuses and 2 patent vitellointestinal ducts. 14 cases of umbilical polyp were lined by small intestinal mucosa and 5 cases lined by gastric mucosa in addition to small intestinal mucosa. [5] The histopathology picture of umbilical polyps in majority of studies showed the lining epithelium to be small intestinal mucosa.

Complications like prolapse or herniation of gastrointestinal contents or communication with the bladder resulting in persistent urinary discharge should be kept in mind which needs immediate intervention. [6,15] Also presence of ectopic tissues (pancreas) can lead to ulceration of the skin with secondary infections and omphalitis. [16] Presence of Meckel's diverticulum can lead to complications like obstruction, intussusceptions, lower gastrointestinal bleed due to ectopic gastric mucosa and rarely diverticulitis. [3]

Omphalomesenteric duct anomalies may be associated with umbilical hernia, intestinal atresias, cardiac malformation, cleft lip and palate and exomphalos. [17] It is also reported that the omphalomesenteric duct may be associated with trisomy 13 and Down's syndrome. [18,19] Hence it is important to rule out presence of other congenital anomalies in the child if a patent vitello-intestinal duct has been diagnosed.

Diagnosis of an omphalomesenteric duct remnant is generally made on physical examination. [3] Imaging studies required for diagnosis include ultrasound, CT scan, Meckel's scan and fistulogram. [20] All omphalomesenteric duct remnants should be surgically resected. [3] To prevent complications, early surgical management is important. [21]

CONCLUSION

Umbilical polyp is one of the rare presentations of persistent vitello-intestinal duct. Surgical management for the duct remnants is imperative to avoid complications.

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