

An Umbilical Polyp in an Infant- A Rare Congenital Lesion

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Dear Sir,

In early embryogenesis, the vitelline duct connects the alimentary canal and the yolk sac. By the time of birth, this communication channel is usually obliterated. However, remnants of the embryonic communication may persist as a lesion on the umbilicus that is called an omphalomesenteric (vitelline) duct remnant. The lesion should be recognized and treated early because of its potential to coexist with life-threatening anomalies.

A 2 month-old boy was referred to the pediatric surgical unit for evaluation of a nonhealing umbilical remnant. Her mother reported persistent drainage and occasional bleeding from the site. The results of a physical examination revealed an otherwise healthy infant with a bright cherry-red, glistening, 1 cm nodule on the umbilicus (Figure 1). Ultrasonographic evaluation of the lesion revealed a moderately vascular hypoechoic mass lesion (approx 10x8 mm) in the region of umbilicus (D/D-Congenital vascular malformation/ Umbilical polyp). Grossly, the lesion measured 1 x 0.6 cm. Consistency was firm and cut surface showed solid white areas. Results of a microscopic evaluation showed a tissue composed of small intestinal mucosa showing intestinal villi and crypts. Beneath it were bundles of smooth muscle fibres and fibrovascular stroma. Interglandular area showed ectatic vessels (Figure 2). The patient was referred for exploratory surgery. During laparotomy, no evidence was found of an associated Meckel's diverticulum, an omphalomesenteric duct, or a patent urachus. The umbilical nodule was excised, and its base was cauterized. The patient recovered uneventfully.

Early in human embryogenesis, the alimentary canal communicates with the yolk sac through the umbilicus. As the embryo grows, the communicating omphalomesenteric

duct narrows; by the fifth week of gestation, it is surrounded by the growing umbilical cord.^[1] The duct normally loses any vestige of its former existence and disappears by about the sixth week.^[1] Under abnormal conditions, part of the omphalomesenteric duct persists, resulting in anomalies. The most common may be Meckel's diverticulum, which occurs in about 2% of the population.^[2] This remnant is found 30 to 60 cm proximal to the adult ileocecal junction on the antimesenteric surface of the small bowel. It may be connected to the umbilicus through a fibrous tract. Other anomalies include a stand-alone fibrous tract, cysts within that tract or within the abdominal wall at the umbilicus, an umbilical sinus, or an external polyp at the umbilicus.^[2] Cysts within the fibrous tract may migrate into the umbilical cord and cause fetal death.^[3] Finally, the remnant may persist as an open umbilical enteric fistula or a patent vitellointestinal duct connecting the lumen of the small intestine to the external surface through the umbilicus.^[4] The patent omphalomesenteric duct is the most problematic vitelline remnant. A confirmed patent omphalomesenteric duct, especially a short one, is considered a surgical emergency because of its high risk of prolapse and herniation. External remnants of the omphalomesenteric duct occur as a bright-red polyp. The polyp may communicate with a patent duct or sinus. Mucosal secretions give it a sticky surface. When gastric like glandular elements are present, the polyp may be surrounded by severely erosive irritant contact dermatitis. For uncomplicated polyps, surgical excision may be adequate.^[5] Pathologic diagnosis requires the presence of ectopic gastrointestinal epithelium. Steck and Helwig^[1] reviewed 40 cases of omphalomesenteric remnant at the Armed Forces Institute of Pathology. Fourteen of these patients were adults. Thirteen of the 40 patients had gastric mucosa (predominant in 9); 25 patients had small bowel mucosa (4 mixed with gastric mucosa); 5 had predominantly large bowel mucosa; and 1 had ectopic pancreas.

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Fig. 1: An umbilical polyp seen as a bright, glistening, cherry red nodule on umbilicus

The differential diagnosis of umbilical polyp includes umbilical granuloma, which is darker red, more apt to bleed, and responsive to silver nitrate cauterization, and also vascular neoplasms, including sarcomas and congenital hemangiomas (Table 1). It also includes a patent urachus, whose presence is confirmed by the passage of urine through the umbilicus.^[6] An inadvertently ligated loop of bowel that has herniated into the umbilical cord also may simulate a patent omphalomesenteric fistula, especially when there is an intestinal fistula.^[6]

TABLE 1: Differential Diagnosis of Vitelline Umbilical Remnant

Differential Diagnosis of Vitelline Umbilical Remnant
Vitelline remnant
Umbilical (pyogenic) granulomas
Vascular neoplasms including sarcomas and congenital and capillary hemangiomas
Ligated umbilical hernia
Patent urachus

An omphalomesenteric remnant should be considered in any patient who has a persistent neonatal umbilical lesion. Early diagnosis of this lesion can facilitate treatment and lessen the risk from associated congenital anomalies of the primitive vitelline connection.

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None

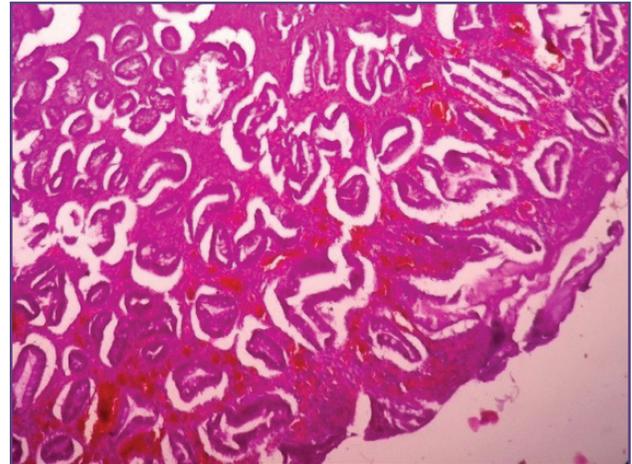


Fig. 2: A photomicrograph of the umbilical polyp showing intestinal glands separated by ectatic vessels (H & E, x100)

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Competing Interests

None declared

Reference

1. Steck WD, Helwig EB. Cutaneous remnants of the omphalomesenteric duct. Arch Dermatol. 1964;90:463-470.
2. Nix TE Jr, Young CJ. Congenital umbilical anomalies. Arch Dermatol. 1964;90:160-165.
3. McCalla CO, Lajinian S, DeSouza D, et al. Natural history of antenatal omphalomesenteric duct cyst. J Ultrasound Med. 1995;14:639-640.
4. Kling S. Patent omphalomesenteric duct: a surgical emergency. Arch Surg. 1968;96:545-548.
5. Hejazi N. Umbilical polyp: a report of two cases. Dermatologica. 1975;150:111-115.
6. Kittle CF, Jenkins HP, Dragstedt LR. Patent omphalomesenteric duct and its relation to diverticulum of Meckel. Arch Surg. 1947;54:10-36.