

## Umbilical keratinous cyst in a 7-year-old girl: A case report

**Rajendra K Ghritlaharey**

From Professor and Head, Department of Pediatric Surgery, Gandhi Medical College and Associated, Kamla Nehru and Hamidia Hospital, Bhopal, Madhya Pradesh, India

### ABSTRACT

Keratinous cysts, the most common kind of epidermal cysts, are filled with keratin originating from the epidermis, most often from the hair follicle. Keratinous cyst is one of the most common skin lesions and occurs most commonly in the face, head, trunk, extremities, and genitals. A 7-year-old girl reported to the pediatric surgery department with a painless, small tumor arising from her umbilicus. There was no history of trauma, and it has been slowly growing for the past many years. Clinical examination revealed a 3-cm-long skin tag with three small interconnected tumors from the umbilicus. It was soft, and the parts of the tumors looked like they contained whitish material inside. Her general and other systems, including the abdominal examinations, were within the normal limits. The tumor was resected through a sub-umbilical skin incision. She made an uninterrupted recovery. The excised specimens subjected to histology were reported as superficial keratinous cysts. Keratinous cysts are one of the most common benign skin lesions, but not the most common, at the umbilicus. Clinicians need to be aware of such pathology during the evaluation of the umbilical swellings and tumors, especially in children.

**Key words:** Children, Cyst, Keratinous cysts, Surgery, Umbilicus

**A** keratinous cyst, the most common kind of epidermal cyst, is filled with keratin originating from the epidermis, most often from a hair follicle [1,2]. The keratinous cysts are divided into epidermoid and trichilemmal cysts [3]. It occurs at the head, face, neck, trunk, extremities, and genitals [1,4-8]. The keratinous cysts and epidermoid cystic lesions of the umbilicus are rare clinical findings [9]. In infants and children, the most common lesions at the umbilicus are umbilical granuloma, umbilical polyp, hernia, omphalomesenteric, and urachal remnants [10-14]. The present is a report of a keratinous cyst that occurred at the umbilicus in a 7-year-old girl, and this report is presented as per the “CARE guidelines” [15].

### CASE REPORT


A 7-year-old girl reported to the pediatric surgery department with a painless, small tumor arising from her umbilicus. There was no history of trauma, and it has been slowly growing for the past many years. Clinical examination identified a 3-cm-long skin tag with three small interconnected tumors arising from her umbilicus (Fig. 1). It was soft, and parts of the tumors contained a whitish material. Her general and other system examinations,

including the abdominal examinations, were within the normal limits. The routine biochemical and hematological investigations were carried out and were normal. Ultrasonography of the abdomen was also within normal limits. The pre-operative clinical diagnosis of the tumor was a sebaceous cyst of the umbilicus.

Under anesthesia, a sub-umbilical incision was given. It was superficial, not adherent to muscles or the peritoneum (Fig. 2). Her umbilical tumor was excised completely (Fig. 3), and the umbilical skin defect was closed. Her post-operative recovery was excellent, and she was discharged on the third post-operative day. The excised specimen subjected to histology was reported as a superficial keratinous cyst (Fig. 4a and b).

### DISCUSSION

A keratinous cyst is the most common epidermal cyst filled with keratin, originating from the epidermis, most often from a hair follicle [1,2]. The formation of the keratinous cysts is due to the invagination and cystic expansion of the epidermis and epithelium, which form the hair follicle and are filled with keratin [16]. The keratinous cysts are divided into epidermoid and trichilemmal cysts [3]. The epidermoid cysts consist of stratified epithelium containing the keratohyalin granules [2,3].

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**Correspondence to:** Dr. Rajendra K Ghritlaharey, Department of Pediatric Surgery, Gandhi Medical College and Associated, Kamla Nehru and Hamidia Hospital, Bhopal, Madhya Pradesh, India. E-mail: drrajendrakil@gmail.com

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**Figure 1:** Clinical photograph of a child showing a tumor arising from her umbilicus

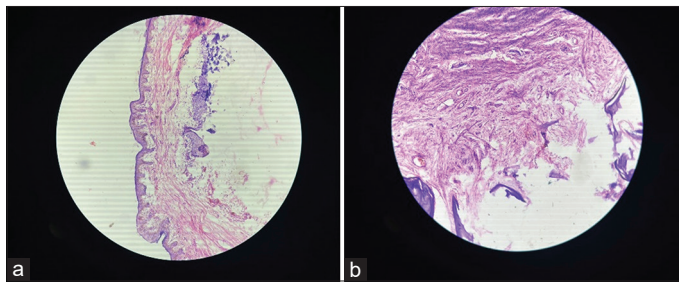


**Figure 2:** Operative photograph of a child showing a partially resected umbilical tumor



**Figure 3:** Photograph showing a resected specimen of the umbilical tumor in a child

The trichilemmal cysts consist of stratified epithelium but lack keratohyalin granules [3]. Epidermoid cysts are more common than trichilemmal cysts [3,17]. A recent analysis consisting of n=1160 cases of benign cutaneous cysts found that three-fourths of



**Figure 4:** (a and b) Sections showing multiple keratinous cysts in the dermis and epidermis and the cysts filled with the keratinous debris

the cases were epidermoid inclusion cysts, 15% were trichilemmal cysts, and the remaining 6% were dermoid cysts [17].

Keratinous cysts are one of the most common cutaneous problems and occur most frequently on the face, head/scalp, neck, trunk, extremities, and genitals [1,4-8]. The keratinous cysts and epidermoid cystic lesions of the umbilicus are rare clinical findings [9]. Keratinous cysts, especially epidermoid cysts, are benign and the most common skin lesions. The malignant tumors occurring from the keratinous cysts are rare but have been reported in the literature [3].

The common umbilical lesions in children are umbilical granuloma, umbilical polyps, umbilical hernia, and remnants of the omphalomesenteric duct and the urachus [10-14]. The above can be differentiated by obtaining a clinical history, clinical findings, and various radiological and histological investigations. The treatment of umbilical lesions in children mostly depends on the underlying pathology and ranges from conservative management to operative therapy [10-14]. The present report is of a 7-year-old girl who presented with a painless, slowly growing umbilical tumor and was clinically diagnosed as a sebaceous cyst, but her histology was reported as a case of superficial keratinous cysts.

## CONCLUSION

Keratinous cysts are one of the most common benign cutaneous lesions that occur on the face, neck, head, trunk, and extremities but are unusual at the umbilicus. Especially in children, the lesions at the umbilicus are umbilical granuloma, umbilical hernia, umbilical polyps, remnants of the omphalomesenteric duct, and urachus, and the clinicians need to be aware of such pathology as keratinous cysts during the evaluation of the umbilicus.

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