



Lateral Cervical Epidermal Inclusion Cyst in a Paediatric Patient: A Rare Case Report

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Case Report

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Abstract

Epidermal inclusion cysts (EICs) are benign lesions that are widely encountered in adults but less common in children. This article describes the case of a thirteen-month-old child who developed a rapidly increasing cystic swelling on his left side of the neck, which was diagnosed as an epidermal inclusion cyst. The patient recovered without incident following a complete surgical resection. This example highlights the need of early detection, precise diagnosis, and surgical intervention in avoiding complications.

Keywords: Epidermal Inclusion Cyst; Cystic Swelling; Paediatric Neck; Early Detection; Surgical Excision

Abbreviations

EICs: Epidermal Inclusion Cysts; MRI: Magnetic Resonance Imaging; CT: Computed Tomography; FNAC: Fine Needle Aspiration Cytology; CECT: Contrast Enhanced Computed Tomography.

Introduction

Epidermal inclusion cysts are typically seen superficially in the subcutaneous space and originate solely from ectodermal tissue. According to histology, they have squamous epithelial and frequently include keratinaceous debris. Since it is thought that acquired cysts arise from the traumatic implantation of a part of the skin into the underlying layers, they are frequently referred to as inclusion cysts [1,2]. This can lead to the ectopic creation of a dermal cyst lined with squamous epithelium in any related area. Preoperative imaging using magnetic resonance imaging (MRI), computed tomography (CT), or ultrasonography may be necessary for diagnosis and surgical planning, depending on the extent and depth of these lesions [1,3]. Direct surgical

excision is an option for the majority, and every attempt should be taken to remove the cysts without rupturing them and causing contents to flow. Unlike dermoid cysts, epidermoid cysts of the neck are rare and typically seen in the midline and submental area. In this report, we describe a unique example of a neck epidermoid cyst that started in the left lateral cervical region.

Case Report

At the Apollo ENT hospital in Jodhpur, Rajasthan, a thirteen-month-old boy arrived with a four-month history of a painless, steadily growing swelling on the left side of his neck. There was no history of trauma, infection, or previous procedures in the area for the patient. His parents stated that although the tumor had progressively grown in size, there was no pain or noticeable impairment in his ability to function.

Physical Examination

A well-defined, non-tender, movable, subcutaneous lump that measured roughly 2 × 2 cm was palpable on the left

lateral part of the neck (level II and III neck area) during the physical examination (Figure 1). There were no indications

of infection or irritation on the skin above. No anomalies, including regional lymphadenopathy, were seen.



Figure 1: Clinical picture of a child with left lateral neck swelling (marked by black arrow).

Investigations

A well-defined, hypoechoic lesion without any vascularity or solid components was seen during a neck ultrasound,

which suggested the presence of a benign cystic mass Figure 2. The results of the fine needle aspiration cytology (FNAC) test supported the presence of a benign cyst.

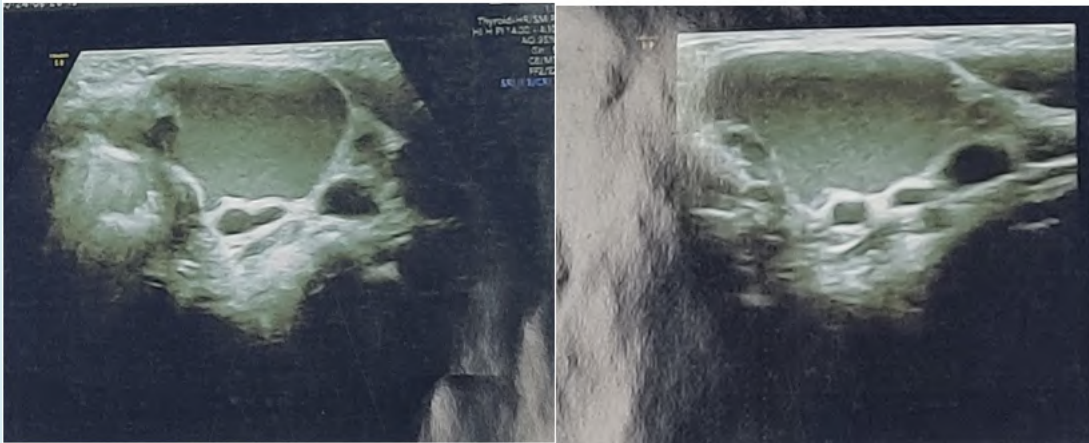


Figure 2: An ultrasound of the neck revealed a well-defined, hypoechoic lesion devoid of any solid components or vascularity.

Surgical Management

The decision was taken to proceed with surgical excision due to the size and the possibility of future consequences, such as infection or discomfort. A transverse incision was made along the neck crease while under general anesthesia, and the cyst was carefully dissected to reveal it (Figure 3). To

avoid recurrence, the entire cyst—including its capsule—was removed (Figures 4-7). After the specimen was submitted for histological analysis, the diagnosis of an epidermal inclusion cyst was verified. The sections show a cyst lined partly by stratified squamous epithelium with a prominent granular cell layer and partly by granulation tissue with keratin flakes embedded within (Figures 8a-d).

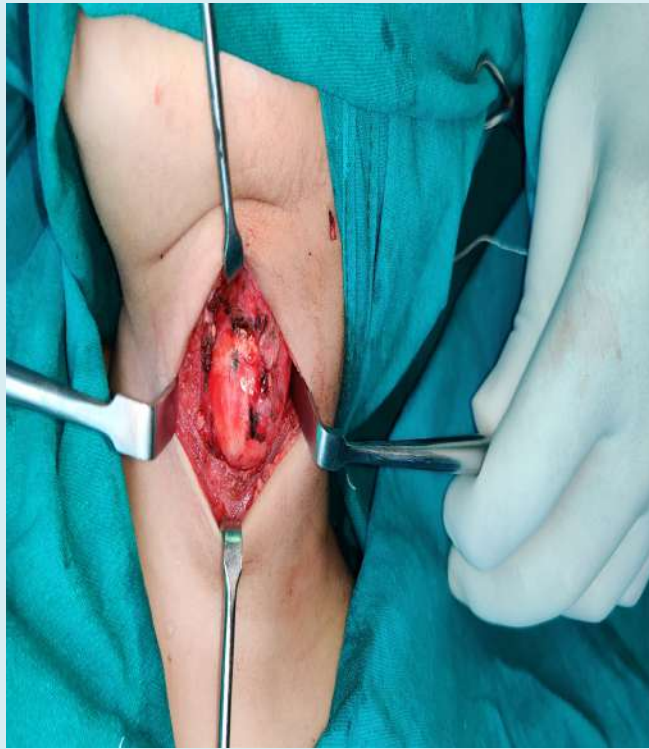


Figure 3: An intraoperative image displaying the cyst and its wall following a meticulous dissection of the surrounding tissue.

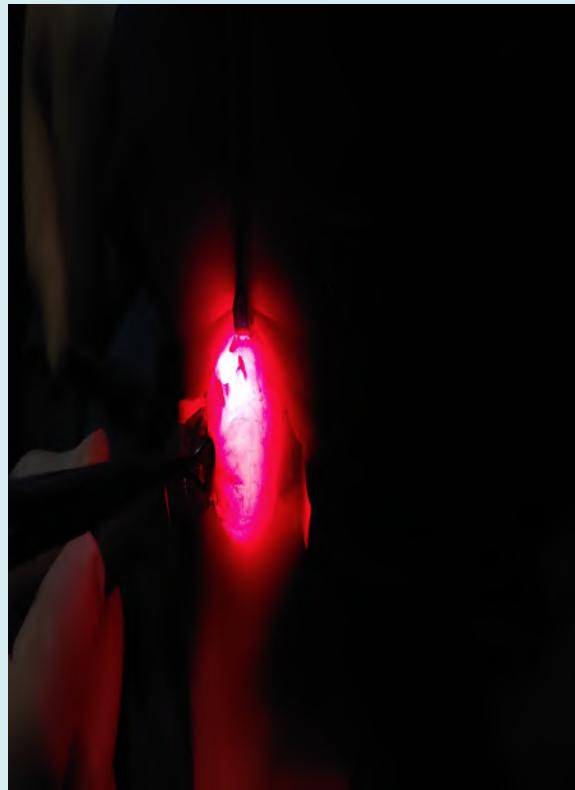


Figure 4: On table transillumination test for neck cyst.

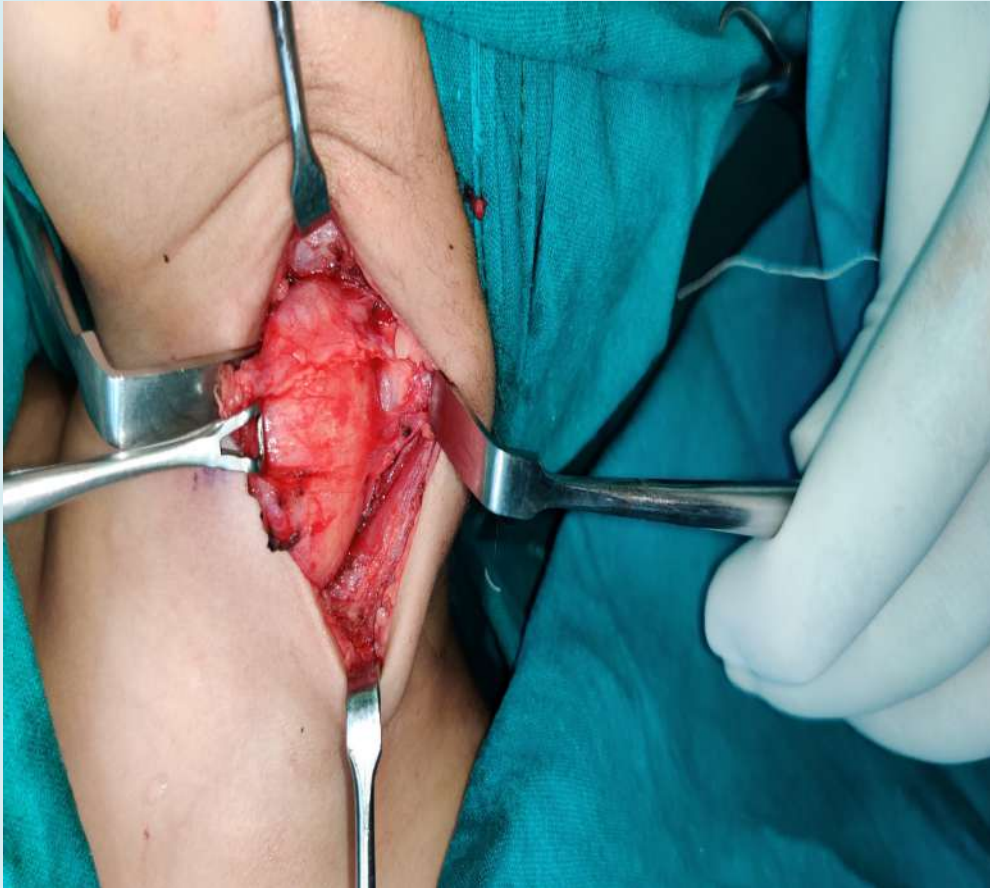
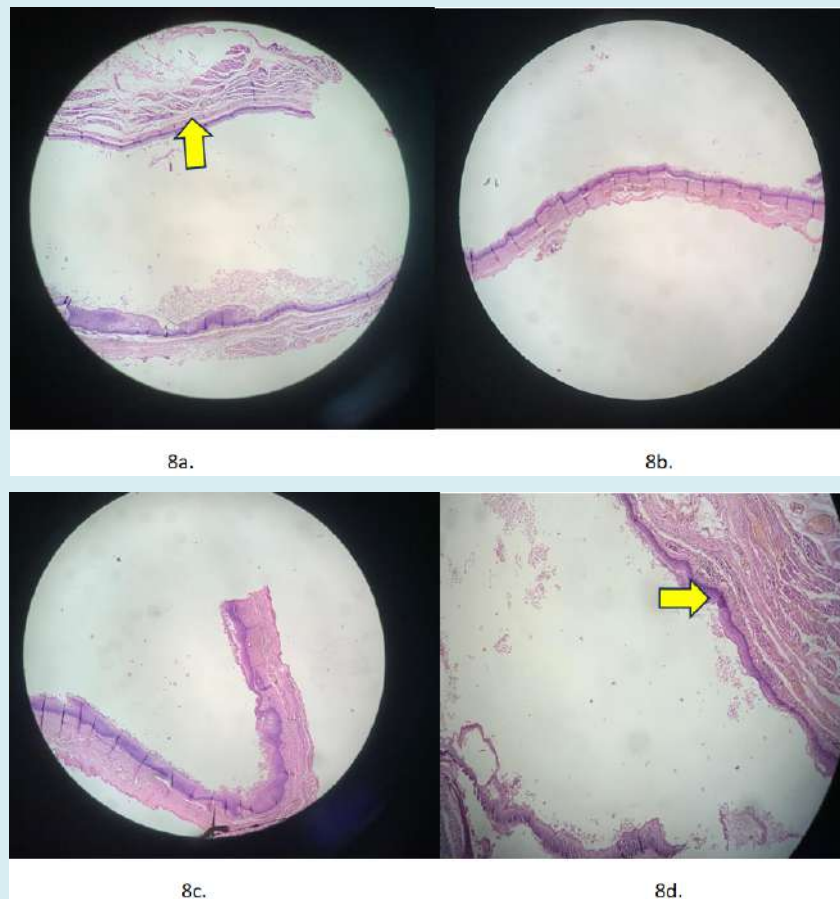


Figure 5: An intraoperative image demonstrating the primary neck vessel's integrity following careful dissection from the surrounding environment.



Figure 6: Intraoperative picture, following successful removal of the neck cyst.



Figures 8a-d: Histopathological slides show a cyst surrounded by stratified squamous epithelium with a significant granular cell layer and granulation tissue with embedded keratin flakes (marked with arrow).

Postoperative Course

Following surgery, the patient made a full recovery without any issues. A follow-up at one month revealed a well-healed scar with no indications of recurrence, and the incision healed without any infection symptoms. The cosmetic result pleased the patient and their family.

Discussion

Children's neck masses may create a diagnostic conundrum. It is believed that cellular failure during embryogenesis leads to an abnormal migration of ectodermal cells, resulting in congenital tumors called epidermoid cysts [4]. However, an acquired implantation theory contends that trauma or surgical procedures may cause germinal descendants to be implanted into deeper tissues, potentially resulting in epidermoid cysts [5]. Additionally, although the precise process of inheritance is yet understood, epidermoid cysts are a feature of many hereditary illnesses [6,7]. With a preponderance of adult males, these cysts are the most common kinds of cutaneous cysts [8-10]. We have a fairly young male patient in our instance. Generally slow-growing, asymptomatic, and typically discovered until they reach adulthood, they are comparatively uncommon in children, as we found out [9-11].

We think that the condition in our case was a congenital epidermal cyst. Unusual and characterized by gradual growth, epidermoid cysts typically do not cause any symptoms [4]. In a few occasions, the cyst wall may burst and cause an inflammatory response in the dermis, and when they do develop, they are typically significant upon presentation. A history and physical examination of the cyst are sufficient to diagnose this condition. The diagnosis will be aided by radiological modalities. Imaging aids in identifying the type and extent of the lesion, and the interaction between the lesion and the neck muscles aids in choosing the best surgical strategy [6]. For the majority of cases, the diagnosis can be made with ultrasonography alone. In dubious individuals with uncommon presenting sites, magnetic resonance imaging and contrast enhanced computed tomography (CECT) play an additional role [11]. Histopathological analysis is the only way to arrive at a conclusive diagnosis. The majority of epidermoid cyst cases are seen in the midline of the neck and the submental region [12]. The cyst in our patient was located anteriorly in the lateral cervical area. This presentation is extremely uncommon. Histologically, the epidermoid cyst in our instance lacked skin appendages inside its wall, which is a characteristic that distinguishes it from a dermoid cyst. In the differential diagnosis, benign neoplasm or malignancy, infection and disruption of developmental processes should be taken into account. A cyst that grows quickly could be a sign of infection or malignancy.

Whether the objective is to correct a cosmetic defect or prevent future infection and malignant degeneration, we believe that total surgical excision is the greatest option for a successful course of therapy with a good prognosis and no recurrence. The recurrence rate of this cyst is low (<3%), and the prognosis is good [13,14].

Conclusion

This instance emphasizes how crucial it is to identify pediatric patients' epidermal inclusion cysts, especially in unusual places like the neck. Infection and recurrence can be avoided with early detection and total surgical excision. For the best results, surgeons should use the proper surgical management and take epidermal inclusion cysts into account when making a differential diagnosis for children's neck tumors.

Compliance with Ethical Standards

The procedure performed in this case report was in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

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Conflict of Interest

The author (s) declares no potential conflicts of interest with respect to the research, authorship, and/or publication of this paper.

Ethical Approval

For the purpose of publishing this case report, the patient's written informed consent was obtained.

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