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Case Report

PILAR CYST- REPORT OF A RARE CASE

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Abstract

We report a case of pilar cyst in a 50 year old female with a swelling in the left parietal region. Gross findings revealed a cystic cavity with multiple infoldings. The characteristic histopathologic feature of a pilar cyst with absence of granular layer and swollen cells were evident. Attention to detail, prompt diagnosis and treatment based on the signs and symptoms are a must for patient welfare.

Keywords: pilar cyst, prompt diagnosis, parietal region.

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INTRODUCTION

A cyst is defined as "a pathological cavity with fluid, semi-fluid, or gaseous contents that is not caused by pus accumulation" and may or may not be line by epithelium as defined by Kramer[1]. There are various categories of cysts, which can occur almost anywhere within the human body's hard and soft tissues, and their occurrences are very common. They differ in size from tiny microscopic to huge macroscopic varieties, and the large cysts can displace the adjoining normal anatomical structures. Cysts lined by an epithelium are more common in maxilla and mandible than any other regions of the body because of numerous existing epithelial cell rests which are present in close vicinity to the developing jaw bones, and hence they are named True Cysts, e.g., , dentigerous cyst, radicular cysts, etc. Pseudocysts lack an epithelial lining like solitary bone cysts, Cysts of maxillary antrum, etc,. [2].

Pilar or Trichilemmal cyst is the frequently occurring dermal cyst. They affect less than 10% of the population. Pilar cysts are the common type of skin cyst, mainly affecting the skin on the scalp. The rate of malignant transformation of pilar cyst is very less to non- existent. Trichilemmal cysts are an autosomal dominant trait that can be inherited. Patients with familial pilar cysts are typically younger and have multiple lesions at the same time. They develop from the epithelium between both the sebaceous gland and the errector pili muscle. The growth rate of the cyst is very slow as it takes several years to attain a large size[3]. The cysts have smooth, round nodules with a solid texture and good mobility. Clinically, it cannot be distinguished from epidermal cysts except that 90% of pilar cysts are found on the scalp, where hair follicles are abundant. Other unusual locations include the face, trunk, and extremities. Palms, genitalia, axillary and groin lesions are uncommon [4].

Trichilemmal cysts are firmer than epidermoid cysts and typically depart more effortlessly through a surgical incision. Trichilemmal cysts appear four to five times less frequently than epidermoid cysts. Some believe that the trichilemmal cyst develops as a result of a genetically determined abnormality in the budding of the outer root sheath of hair follicles. The cyst wall's similarity to the sheath at the point of the follicular isthmus lends support to this theory [5].

CASE REPORT

A 50 year old female presented with a swelling on the left parietal region for the past one year and gradually increased to the present size. The patient had noticed the swelling initially and had left it unattended until it was big enough to disrupt sleep at night. There was no relevant history of similar lesions. Medical history and dental history were non-contributory to the incidence of the lesion. On general examination, the swelling was solitary, well defined, no abnormal color changes, the skin over the swelling was smooth and it was protruding beneath the skin in the left parietal region, measuring about 3.5x1.5 cm in size, approximately [Figure 1].

Figure 1: Clinical photograph depicting swelling in the left parietal region

There was no tenderness or temperature alterations on palpation. Ultrasound findings revealed a cystic lesion measuring 3.6x1.5cm seen in the left parietal region with evidence of echogenic debris. No evidence of erosion of adjacent bone and intracranial extension. Surgical removal of the lesion was performed [Figure 2] and received in the department of oral pathology in 10% neutral buffered formalin.

Figure 2: Surgical removal of the lesion

Macroscopically, the specimen appeared like a cystic bag containing a clear fluid with a measurement of 3x1.9x0.9cm [Figure 3]. The specimen was hollow inside upon cutting into equal halves [Figure 4]. After fixing with 10% neutral buffered formalin for 24 hours, it was subjected to dehydration, clearing, impregnation, embedding, sectioning and staining using H&E stain.

Figure 3: Gross image of the specimen, grey black in color, soft to firm in consistency

Figure 4: Grossing of the specimen - a hollow cavity with infoldings

Microscopically, the cystic cavity was lined by keratinised stratified squamous epithelium of variable thickness [FIGURE 5] with no visible intercellular bridges [FIGURE 6] along with peripheral layers of cells

showing distinct palisading arrangement. Few cells appear swollen filled with pale cytoplasm towards the cystic cavity [FIGURE 7] and there is evidence of hyalinization subjacent to the epithelium, which is stained blue in Modified Gallego stain[FIGURE 8]. The epithelium connective tissue wall interface is flat with no evidence of rete peg formation.The supporting dense connective tissue wall shows several areas of homogeneous eosinophilic material, mixed inflammatory cell infiltrate predominantly neutrophils, plasma cells, lymphocytes, moderate vascularity and areas of hemorrhage. Adipose tissue and nerve bundles are evident in deeper planes.

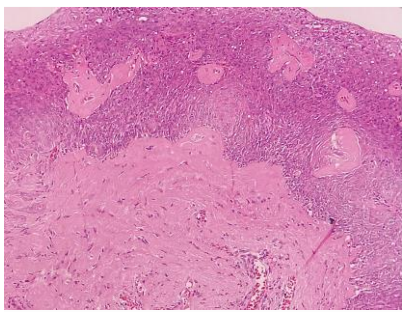

Figure 5:Keratinised stratified squamous epithelium of variable thickness(H&E, 10X)

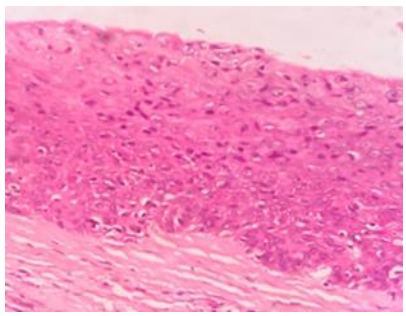

Figure 6: Epithelium with no visible intercell bridges(H&E,40X)

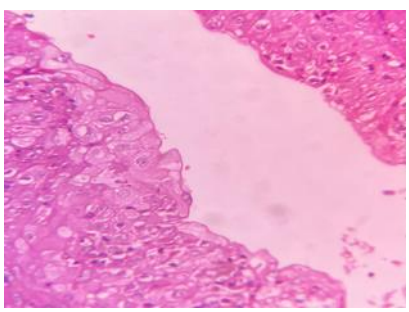

Figure 7: Cells appear swollen filled with pale cytoplasm towards the cystic cavity (H&E, 40x)

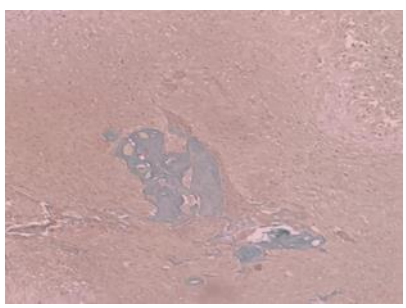

Figure 8 : Modified Gallego Stain: Areas of hyalinization subjacent to the epithelium stained blue green (H&E, 10X)

DISCUSSION

Trichilemmal cysts are non-neoplastic benign lesions; the related neoplastic lesions are malignant proliferating trichilemmal cyst/tumor and proliferating trichilemmal cyst/tumor. In 2% of cases, single or multiple foci of proliferating cells develop into proliferating tumors, which are referred to as proliferating trichilemmal cysts or tumors. These cysts grow quickly and are biologically benign, but they are very aggressive locally. They may, on rare occasions, develop into a malignant form. Skin cysts are the most common type of skin lesion encountered in surgery. Among the cyst lesions, Trichilemmal cysts are extremely uncommon[6].

Pilar cysts are the most common type of skin cyst, and they are firm, slow-growing dermal cysts that form when a hair follicle becomes obstructed by keratin and old moulting skin cells. Another well-known term for pilar cysts is "trichilemmal cysts." These cysts belong to the sebaceous cysts clan and affect approximately 10% of the demography. Pilar cysts can appear anywhere on the body, but they are most commonly found on the scalp. These cysts grow slowly and are generally harmless, but they can cause discomfort if they ulcerate while becoming locally aggressive. The appearance of a soft, non - painful mass that grows slowly over time, or imaging while clinical suspicion for other diagnoses is high, is used to make the diagnosis. The ultimate treatment is surgical excision [7].

Pilar cysts are diagnosed primarily based on their clinical appearance. The majority of the time, they are myriad lesions, but single lesions can also be seen. Pilar cysts are most common in areas with dense hair follicles, such as the scalp, and they're often noticed on the face, head, and neck as well. Trichilemmal cysts are typically asymptomatic unless their contents calcify or rupture, resulting in an inflammation reaction and pain at the affected site, which could also be due to the backpressure of the cyst. Trichilemmal cysts are typically skin coloured, sleek, mobile, firm, and well-circumscribed. They are typically slow-growing nodules, but they can grow rapidly, indicating infection or malignant transformation[3].Younger patients are more likely to have dermoid cysts that present rapidly, indicating infection or malignant transformation. Younger people are also more inclined to develop trichilemmal cysts. Pilar cysts have no known racial predisposition and are more common in women than men [8].

Multiple subcutaneous solid or cystic masses of the scalp can be seen on radiographs. The cystic masses are made up of inactivated proteinaceous material with granular calcifications that vary depending on the layer. The masses also may exhibit ringlike mineralization patterns that are unrelated to mass size. Local intrusion into calvaria, meninges, and dural sinuses are malignant radiographic characteristics [9].Other imaging findings suggestive of malignancy include enhancement of soft-tissue components in the cyst's periphery and invasion of the neighbouring soft tissues. CT is the preferred technique for monitoring bony erosion, whereas MR imaging is better suited for assessing dural participation and soft-tissue infiltration. In comparison to proliferating trichilemmal cysts, which need extensive local excision as a precaution to avoid recurrence, simple trichilemmal cysts are frequently easily enucleated [10].

Trichilemmal cysts are distinguished histologically by the utter lack of intercellular bridges between the epithelial cells lining the cyst wall. The peripheral layers are palisaded, whereas cells near the cyst cavity are enlarged and loaded with pale cytoplasm. Amorphous eosinophilic keratin is found in the cyst cavity. Nearly 25% of cases have foci of calcifications inside the keratin [11]. Keratin in pilar cysts stains positive with antikeratin antibodies, as does keratin derived from human hair. Trichilemmal cysts may rupture and some of their components may leak into the dermis, causing a foreign-body reaction. In cases of proliferating trichilemmal cysts, malignant change is observed in the form of increased mitotic figure, cell atypia, and necrosis [3].

In contrast to proliferating trichilemmal cysts, which require extensive local excision to prevent recurrence, simple trichilemmal cysts are frequently easily enucleated. Because proliferating trichilemmal cysts have the potential to be malignant, management involves wide local excision as well as long-term surveillance.In the literature, approximately 30 cases of lymphatic, local invasion , and/or hematogenous metastatic spread have been reported [12].

CONCLUSION

Cystic lesions, irrespective of their aetiology, necessitate medical assistance, whether it be for cosmetic purposes or to assess a neoplastic process. If trichilemmal cysts are not causing symptoms, they do not need to be removed. Incision and drainage under local anesthesia may provide relief from discomfort; however, elective excision before rupture of the cyst prevents scarring. Pilar cyst has good prognosis and we need to educate the patients to come forward if they find any little swelling and not to procrastinate without proper treatment. It can be locally infiltrative when transformed to the proliferating pilar cyst and needs proper treatment at the opportune time.

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Conflicts of interest

There are no conflicts of interest

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