CASE REPORT

Multiple Epidermoid Cysts of Face: A Case Report

Swati Shrikant Gotmare, Rutuja Gajanan Vidhale, Abhishek Jadhav, Treville Pereira.

Abstract

Introduction: Epidermoid cysts are cystic malformations filled with keratin and lipid rich debris. They generally present as benign, soft, and freely movable, slowly enlarging, and non-tender masses, commonly located on the face, neck and trunk of the body. They are more commonly seen in ovaries and gonads, and less often in head and neck region. Approximately 7% of epidermoid cysts are present in the head and neck region and about 1.6% are found in the oral cavity. They can be either congenital or acquired in origin. Congenital epidermoid cyst occurs at third and fourth intra-uterine life due to entrapment of ectodermal elements entrapped during midline fusion of first and second branchial arches. However, acquired epidermal cysts occur due to implantation of epidermal elements following cystic transformation.

Case presentation: In this article, we discuss a case of epidermoid cysts presenting in multiple areas of the face which clinically appeared to as acquired nevi (mole).

Management/Prognosis: Based on clinical appearance and provisional diagnosis, treatment of mole was made. The lesions were excised by electrocautery and sent for histopathological evaluation.

Conclusion: There was a drastic difference between the clinical appearance and histopathological picture seen. A thorough knowledge about etiology, clinical history and histopathology is needed to reach an accurate diagnosis.

Keywords: acquired nevi, cosmetic, epidermoid cyst, mole

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Introduction

Epidermoid cysts are benign, soft, and freely movable, slowly enlarging, and non-tender masses, commonly located on the face, neck and trunk of the body.[1] They are more commonly seen in ovaries and gonads, and less often in head and neck region. Approximately 7% of epidermoid cysts are present in the head and neck region and about 1.6% are found in the oral cavity.[2] They can be either congenital or acquired in origin. Congenital epidermoid cyst occurs at third and fourth intra-uterine life due to entrapment of ectodermal elements entrapped during midline fusion of first and second branchial arches. However, acquired epidermal cysts occur due to implantation of epidermal elements following cystic transformation. Cystic malformations show variable types of cystic lining which is either stratified squamous or unstratified squamous epithelium and filled with keratin.

Acquired melanocytic nevi (mole) are benign in nature, and are common indicators for cosmetic surgery. Although clinically what seems like a mole might give a completely different outlook when observed under the microscope. We describe a case report of multiple swellings present on the face which gave a clinical diagnosis of acquired nevi (mole) and later was seen as an epidermoid cyst when observed histologically. Hence, histopathological features are crucial in deciding the final diagnosis and therefore must be considered as a final resort to avoid uncertainty.

Case Presentation:

A 40-year-old male presented with multiple swellings on the frontal and right lateral canthus region. The patient noticed the swelling 2 years ago and reported its slow enlargement over the period of time and desired its complete removal for aesthetic purposes. Physical examination revealed that the swelling was soft in consistency, and of similar colour to the adjacent skin. Three small swellings were observed, one on the right lateral canthus region and two swellings were seen on the frontal region

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measuring about 0.5x1 cm in diameter. Based on clinical features a provisional diagnosis of acquired nevi (mole) was made.(Fig 1) A local anesthetic with epinephrine was injected around the cyst to minimize bleeding. The lesions were then surgically excised by electrocautery. Histopathological picture showed presence of orthokeratinized cystic epithelial lining and loose connective tissue capsule. The cystic lining was composed of squamous epithelium with 2-5 cell layer thickness and presence of a prominent granular layer. Cystic lumen revealed abundant keratin flakes. Connective tissue wall showed loosely arranged collagen fibres with associated adnexal structures like hair follicles and sebaceous glands. The epithelium shows presence of melanin pigmentation in the basal and supra basal cell layer. Few inflammatory cells were observed within the connective tissue. Thus, the final diagnosis of epidermoid cyst was made based on the histopathological features.(Figs. 2,3 and 4)

Management and Prognosis

Surgical excision seems to be the mainstay of treatment. The lesion was then surgically excised by electrocautery. A definitive diagosis of epidermoid cyst was made after the microscopic examination. Although recurrence rate is low, an early diagnosis and treatment is needed to avoid cosmetic and functional impairment. Malignant transformation is rare, with a malignant potential of 0.011-0.045%.

Discussion

Epidermoid cysts commonly result from accidental implantation of epidermis during surgery or due to trauma. In most of the cases, epidermoid cysts are sporadic, albeit they can be associated with autosomal dominant (AD) Gardner syndrome (familial adenomatous polyposis) and Gorlin syndrome (basal cell nevus syndrome) and also associated with genetic disease pachonychia congenital type 2. Epidermoid cysts occurring in preadolscences in unusual locations and numbers raise the suspicion of a syndrome whereas in elderly patients, epidermoid cysts may result from chronic sun damage. Other causes of epidermoid cyst include; patients on BRAF inhibitors, imiquimod and cyclosporine. Lately ultraviolet (UV) light and infection with the human papillomavirus (HPV) seem to have caused epidermoid cysts. Epidermoid cysts are the most common cutaneous cysts and typically occur in the third and fourth decades of life and are more commonly seen in males as females. In the neonatal period, small epidermal cysts, referred to as milia, are common. It has been observed that nearly 1% of epidermoid cysts undergo malignant transformation to squamous cell carcinoma (SCC) and basal cell carcinoma (BCC). Epidermoid cysts are derived from the follicular infundibulum. Generally, these cysts are the result of plugging of the follicular orifice. The cyst communicates with the surface of the skin through a keratin-filled orifice and disruption of the orifice is important in the pathogenesis. Additionally, they can also occur from traumatic and penetrating injuries leading to the implantation of the epithelium.[3]

Clinically, the described lesion can formulate up to various differential diagnosis like acquired melanocytic nevi, dermoid cyst, epidermoid cyst, sebaceous cyst, lipoma, pilar cyst, furuncle, milia.[3] Acquired melanocytic nevi are well circumscribed, round to ovoid lesions, with regular and well defined borders. The histological mor-

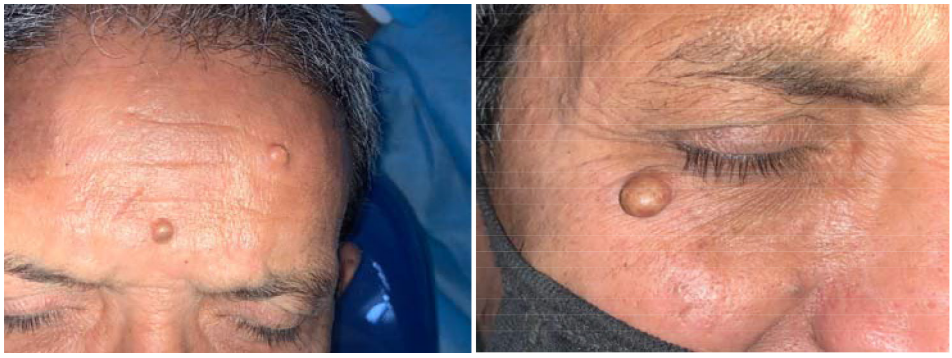

Fig 1: Extraoral swellings on the frontal region and the lateral canthus region

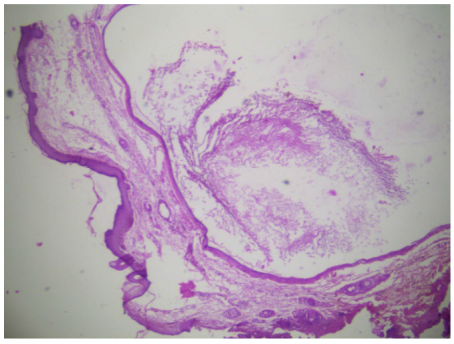

Fig 2: Orthokeratinized cystic epithelial lining with loose connective tissue stroma and cystic lumen filled with abundant keratin flakes (H & E, 4X)

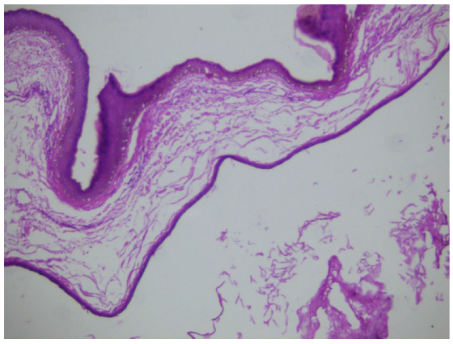

Fig 3: Orthokeratinized cystic epithelial lining with loose connective tissue stroma (H & E, 10X)

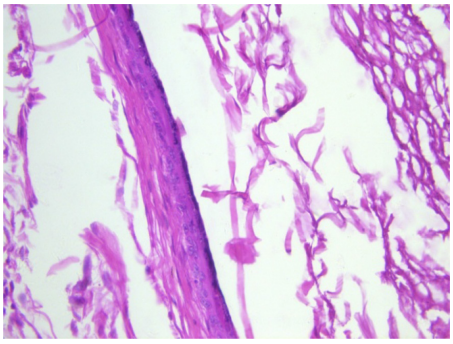

Fig 4: Squamous epithelium with prominent granular layer (H & E,40X)

phology of the acquired nevi largely dictates epidermal and dermal crowding of cells comprising a melanocytic nevus as nevus cells or nevomelanocytes.[4] Looking at the histopathological picture of the lesion described in the article, acquired melanocytic nevi can be easily ruled out as melanocytes were sparsely populated. Epidermoid cysts are generally present as benign, soft, and freely movable, slowly enlarging, and non-tender masses, commonly located on the face, neck and trunk of the body. They are also known as epidermal cyst, epidermal inclusion cyst, infundibular cyst, epidermoid inclusion cyst and epithelial cyst. Approximately 7% of epidermoid cysts are present in the head and neck region and about 1.6% are found in the oral cavity.[5] They can be either congenital or acquired in origin. Congenital epidermoid cyst occurs at third and fourth intrauterine life due to entrapment of ectodermal elements entrapped during midline fusion of first and second branchial arches. However, acquired epidermal cysts occur due to implantation of epidermal elements following cystic transformation.[6] Histological variants of epidermoid cyst stated by Meyer include: a) Dermoid cyst: Squamous epithelium lined by cystic lumen enclosed with adnexal structures such as hair, hair follicles, sebaceous and sweat glands. b) Epidermoid cyst: Squamous epithelium lined by cystic lumen devoid of adnexal structures. c) Teratoid cyst: Epithelial lining varying from stratified squamous epithelium to ciliated respiratory epithelium enclosed with derivatives of ectoderm, mesoderm and endoderm. The preeminent difference between epidermoid and dermoid cyst is that the former does not contain skin appendages in the cystic wall.[7] Epidermoid cysts are lined by stratified squamous epithelium with a noticeable granular layer and cystic lumen filled with keratin flakes.[8] Epidermoid cysts are devoid of skin appendages like hair follicles, sebaceous glands, etc. However, if the biopsy is taken deeper into the tissue there is a possibility of skin appendages to be seen microscopically in epidermoid cyst. This should not be confused with dermoid cyst as dermoid cysts also show similar features. Therefore, histopathological features play the most important role in achieving an accurate final diagnosis. Although clinical and histopathological pictures may show a vast difference, to avoid any mishap one must always rely on the histopathological findings to arrive at an appropriate diagnosis followed by a suitable treatment. Epidermoid cyst occurring on the head and neck region are infrequent and can be left untreated, unless they are large and infected, or present in unusual location and interfere with everyday life, if the cyst undergoes inflammation or it ruptures or for cosmetic reasons. In any of such cases they are mainly treated by complete surgical excision of the cyst with the cyst wall intact under local anesthesia.

Conclusion

Epidermoid cysts are benign intradermal or subcutaneous tumors. They are fluid filled cystic malformations that elevate the skin. Even though sebaceous cyst, lipoma and dermoid cyst are considered as differentials of epidermoid cyst, a thorough knowledge about etiology, clinical history and histopathology is needed to reach an accurate diagnosis.

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