

# Epidermoid Cysts of Face: Clinicopathological Presentation and a report of four cases.

Satya Narain,<sup>1</sup> Anubha Gulati,<sup>2</sup> Renu Yadav,<sup>3</sup> Hemant Batra<sup>4</sup>

## ABOUT THE AUTHORS

### 1. Dr Satya Narain

Associate Professor, Oral And Maxillofacial Surgery, Dr H.S. Judge Institute Of Dental Sciences And Hospital, Panjab University Chandigarh.

### 2. Dr Anubha Gulati

Associate Professor, Oral Pathology, Dr H.S. Judge Institute Of Dental Sciences And Hospital, Panjab University Chandigarh.

### 3. Dr Renu Yadav

Associate Professor, Oral Pathology, Dr H.S. Judge Institute Of Dental Sciences And Hospital, Panjab University Chandigarh.

### 4. Dr Hemant Batra

Professor And Incharge, Oral and Maxillofacial Surgery, Dr H.S. Judge Institute Of Dental Sciences And Hospital, Panjab University Chandigarh.

### Corresponding Author:

### Dr Satya Narain

Associate Professor, Oral And Maxillofacial Surgery, Dr H.S. Judge Institute Of Dental Sciences And Hospital, Panjab University Chandigarh.

[drsatya.maxfac@hotmail.com](mailto:drsatya.maxfac@hotmail.com)

## Abstract

Epidermoid cysts represent the most common cutaneous cysts. While these may occur anywhere on the body, they occur most frequently on the face, scalp, neck and trunk. A report of four cases and their clinicopathological features are described in this article.

**KEY WORDS:** Epidermoid cysts, epidermal inclusion cyst, face, skin and surgery.

## Introduction

Epidermoid cyst is intradermal sac-like structure which is lined with squamous epithelium containing keratohyaline granules. An epidermal cyst is derived from epidermis, and is formed by cystic enclosure of epithelium within the dermis that becomes filled with keratin and lipid-rich debris [1]. In the past, epidermoid cysts have been referred to by various terms including follicular infundibular cysts, epidermal cysts and epidermal inclusion cysts. The term epidermal inclusion cyst refers specifically to an epidermoid cyst that is the result of the implantation and proliferation of epidermal elements in the dermis. Since most of these lesions arise from the follicular infundibulum, the more general term epidermoid is more appropriate.

Both dermoid and epidermoid cysts are ectoderm-lined inclusion cysts while epidermoid cysts have only squamous epithelium; dermoid cysts contains hair, squamous epithelium, sebaceous and sweat glands [1]. Epidermoid cysts are benign lesions; however rare cases of various associated malignancies have been reported [2, 3, 4, 5, 6, 7].

Epidermoid cysts are usually asymptomatic lesions and present as flesh-colored to yellowish, firm, round mobile subcutaneous nodules of variable size. Size generally varies from 0.5 to 5cm. A central pore or punctum may be present. These lesions may become inflamed or secondarily infected, resulting in swelling and tenderness [8].

Epidermoid cysts are approximately twice as common in men as in women and may occur at any age; however they most commonly arise in fourth decade of life.

Facial epidermoid cysts are easily diagnosed by clinical examination, no laboratory study are necessary and imaging investigations are not required for epidermoid cysts on face as these are present very superficially on skin.

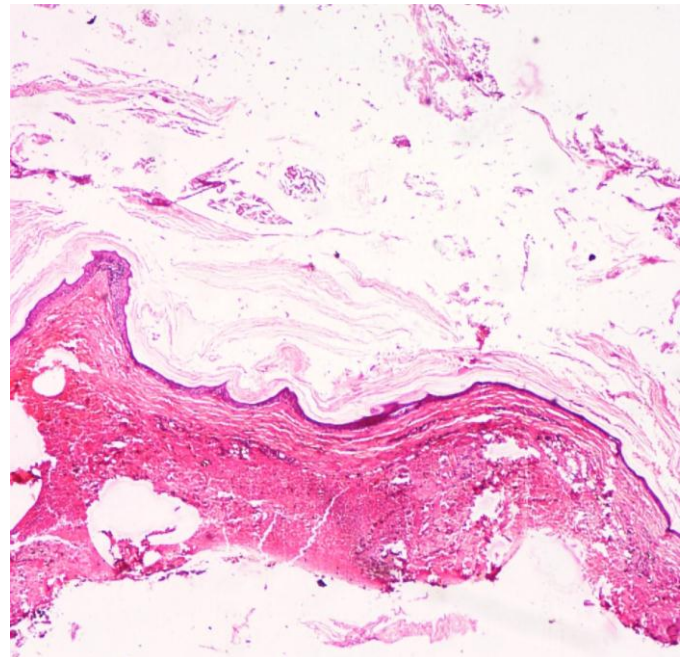
Epidermoid cysts are very slowly growing lesions, patient generally do not seek consultation when the lesion is asymptomatic. Treatment is surgical excision or incision with removal of the cyst and cyst wall through the surgical defect. Histologically, epidermoid cysts are lined with stratified squamous epithelium that contains a granular layer with central lumen filled with laminated keratin. Calcification can be seen in older cysts.



**Fig. 1a,b Clinical picture of epidermoid cyst attached to tragus of ear**



**Fig.2 Surgical specimen of excised epidermoid cyst.**



**Figure 3. Photomicrograph of cyst wall showing stratified squamous epithelial lining with the luminal surface depicting abundant laminated keratin. (H&E, 4X)**





**Fig. 4 Clinical picture showing two small epidermoid cysts on skin of forehead, central punctum is also seen on both lesions.**



**Fig.7A. Clinical picture showing epidermoid cyst on skin of left side of face**



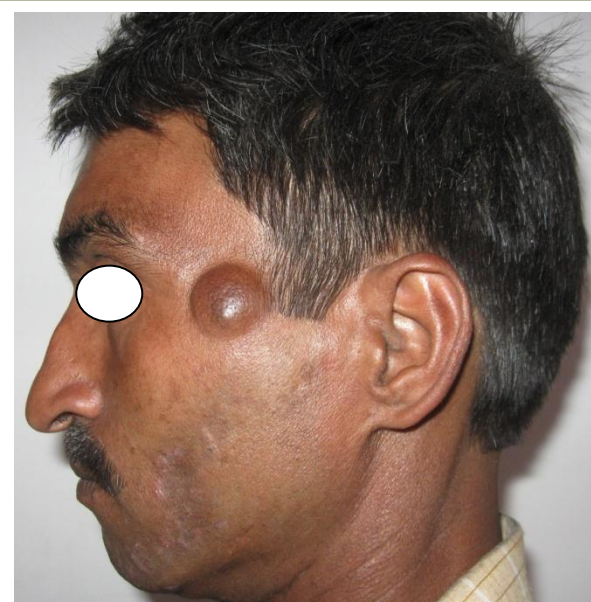
**Fig.5. Operative photograph showing enucleation of lesion through minimal invasive approach**



**Fig.7B. Photograph showing punctum on the lesion**



**Fig.6 Photograph of surgical specimens**



**Fig. 8. Clinical picture of epidermoid cyst on left side of face over zygomatic arch region.**

## ETIOPATHOGENESIS

An epidermal cyst is derived from epidermis, and is formed by cystic enclosure of epithelium within dermis that becomes filled with keratin and lipid rich debris [1].

The source of epidermis is nearly always the infundibulum of the hair follicle, as there are evidences that the lining of the two structures is identical [8].

Studies have suggested that human papilloma virus and exposure to ultraviolet light may play a role in the formation of epidermoid cyst [9, 10, 11, 12].

## CASE REPORTS

**CASE NO. 1:** A 65 Year male presented with chief complaint of swelling on right ear. Swelling was present since last 8 years and was gradually increasing in size. Clinically a single, round, yellowish colored, soft, nontender swelling of approximately 1cm size was present. Swelling was attached to skin of right tragus of ear (Fig.1a, 1b). Swelling was excised from its base by elliptical incision (Fig 2). Histopathology revealed epidermal inclusion cyst. (Fig.3)

**CASE NO.2:** A 40 years old male patient presented with two swelling on the skin of forehead. Patient was not aware about exact duration of swelling. Clinically, swellings were firm, round yellowish colored subcutaneous nodules. Punctum was present on both the swellings (Fig.4) Swellings were treated by minimal invasive technique by giving incision over the central part of swelling and enucleating the content and lining of the cyst (Fig.5, 6). Histopathological diagnosis was epidermal inclusion cyst.

**CASE NO.3:** This was a case of small swelling on the skin of right cheek in a 70 years old lady Fig. 7A,7B).Swelling was excised by elliptical incision and on histopathological examination it was an epidermal inclusion cyst.

**CASE NO.4:** A 30 years old male patient presented with chief complaint of swelling on right side of face in front of ear since 6 years. On clinical examination a single, round, firm, mobile swelling of approximate size of 3cm was present on right zygomatic arch region (Fig 8). Skin overlying the swelling was normal in color. Clinical diagnosis was epidermoid cyst. Patient has not reported for treatment.

## DISCUSSION

Al-khateeb et al [13] in their retrospective study on cutaneous cysts of head and neck found that epidermoid cyst was most frequent lesion (49%) followed by pilar cyst (27%) and dermoid cysts (22%). Zide found a similar pattern [1].

In an analysis of cutaneous cyst of the head and neck, Golden B A, Zide MF [14] found that cheek was the most common location for cutaneous cyst. Most common site on face is forehead and nasal area.

Lee HE et al [15] in a study comparing punch and elliptical incision for the treatment of epidermoid cyst concluded that punch incision produces a superior cosmetic result. They recommended that epidermoid cyst measuring 1 to 2 cm that are located on face or in area of cosmetic concern are best treated with punch incision.

Clinical diagnosis of epidermoid cyst can be confirmed at surgery by typical appearance of a cystic lesion filled with creamy fluid. Therefore these lesions frequently escape histopathological diagnosis. Malignant lesion such as basal cell carcinoma and pilomatrix carcinoma can mimic cutaneous cyst [1]. So surgical specimens of clinically diagnosed epidermoid cysts should always be submitted for histopathological examination.

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