CASE REPORT

A Rare Case of Epidermoid Cyst in Neck

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ABSTRACT
Epidermoid cysts are common lesions, but malignant transformation of their epithelium is rare. There are few case reports in the literature concerning malignant transformation of an epidermal cyst into squamous cell carcinoma. Two epidermoid cysts occurring simultaneously in the neck is rare and not a single case report is available in the literature. One of the cysts transforming into squamous cell carcinoma and the other showing atypical changes is still the rarest and not reported till date. We present a case of two epidermal inclusion cysts in a patient out of which there were atypical changes in one cyst and other cyst showed squamous cell carcinoma.

Keywords: Epidermoid cyst, Histopathological examination, Immunocytochemistry, Squamous cell carcinoma.


INTRODUCTION
Dermoid and epidermoid cysts develop in the midline or sublingual region in head and neck. Single epidermoid cyst in head and neck is commonly encountered in practice but a patient presenting with two epidermoid cysts in head and neck region with malignant transformation is uncommon.1,2

We report a rare case of two epidermoid cysts in neck undergoing malignant changes.

Clinicopathologic features of this rare entity are discussed along with review of relevant literature.

CASE REPORT
A 28 years old male, without any significant previous medical history, presented with a swelling in left submandibular region and upper part of left-side of neck. The duration of the lesion was 7 months with no previous history of any trauma or surgery. Examination revealed a firm, mobile mass in left submandibular region which measured 3.5 cm in diameter and other swelling in upper part of neck on left-side measuring 1.5 cm in diameter (Fig. 1).

The overlying skin appeared normal. The mass was not pulsatile and it was not adherent to deeper structures. This was diagnosed as epidermoid cyst based on clinical examination and fine needle aspiration cytology (FNAC) report. Computed tomography scan of neck showed two hypodense well marginated lesions having cystic densities and post-contrast peripheral enhancement on left-side of neck, largest lesion in submandibular region at the level of submandibular gland, measured 3.3 × 2.8 × 2.7 cm with a clear boundary and regular margin positioned under the platysma. The other cyst was near upper part of sternocleidomastoid muscle and abutting external carotid artery measured 2.5 × 2 cm (Figs 2A and B).

The cysts were planned for excision under general anesthesia. All preoperative hematological investigations were normal. A skin incision 2 cm below and parallel to the lower border of mandible was made and subplatysmal flap was raised, thereby preserving marginal mandibular nerve. There was no adhesion to the submandibular gland and carotid sheath. The mass was not fixed to deeper structures. The masses were completely excised. Macroscopic examination showed two cysts which measured 6.5 × 3.0 and 5.0 × 2.0 cm (Figs 3A and B).

The cut section displayed a cystic lesion containing lots of gelatinous material.

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Fig. 1: The patient with two swellings
Histopathological examination of the specimen showed a cystic lesion lined by bland squamous epithelium and filled with laminated keratin and no skin appendage.

Benign epidermal inclusion cyst filled with laminated keratin (hematoxylin and eosin). There were several small scattered islands of severely atypical squamous epithelium. These areas of typical epidermal cyst were juxtaposed with zones that displayed marked nuclear irregularity with mitotic activity and an infiltrative growth pattern (Figs 4A and B). Based on these findings, the diagnosis of squamous cell carcinoma arising in an epidermoid cyst was made.

DISCUSSION

An epidermal inclusion cyst is a widespread benign intradermal lesion, and may occur anywhere in the body. The dermoid cyst is used to describe three varieties of histologically related cysts—dermoid, epidermoid and teratoid cyst. Dermoid cysts may be congenital or acquired. The mechanism of development for congenital cysts involves embryonal aberration of residual ectodermal tissue, whereas acquired cysts are due to epithelial tissue aberration in the dermis due to surgery, trauma or inflammation.3

The submandibular region dermoids require to be differentiated from submandibular tumors, lymphoma, ranula, metastatic lymphnode, branchial cyst and hemangioma. Computed tomography (CT), magnetic resonance imaging (MRI) and FNAC are required to clinche the diagnosis. However, for diagnosis mere imaging and FNAC are not sufficient and excision is required for confirmation.

A carcinoma arising in an epidermoid cyst is uncommon. There are few case reports of carcinoma arising in epidermoid cysts.1,2 Reported rates of malignant transformation of epidermal cyst into cutaneous squamous cell carcinoma range from 0.011 to 0.045%.2,4 Most cases have been reported on the head and neck, while the other lesions were on the trunk or limb.5,6 The size of the lesions ranged from 1.5 to 10 cm (mean, 5 cm) and the duration of lesions ranged from 2 to 132 months (mean, 33.5 months).4,5 The nature of the stimulus for malignant transformation in an epidermal cyst is uncertain.7 It has been suggested that chronic irritation of the lesion could be a triggering factor.8 Also there is growing evidence that human papillomatous (HPV) infection may play a role in the development of nonmelanoma skin cancer.7,9

The clinical course, prognosis, approach, and optimal management of this disease entity are not well-established, due to rarity of these lesions. Primary treatment for a neoplastic cystic lesion is wide excision with adequate margin of safety.7 It is proposed that minimal margins of excision should be 4 mm for all lesions, but for high risk tumors, at least 6 mm margin is recommended.7

CONCLUSION

Epidermoid cyst is a benign intradermal lesion, and may occur anywhere in the body and rarely they may turn malignant. A rare case of malignant transformation in an epidermoid cyst has been discussed with review of literature.
REFERENCES