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CASE STUDY

DERMOID CYST OF PAROTID- A RARE CASE PRESENTATION

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ABSTRACT

A dermoid cyst is the most common of the teratomatous lesions in the head and neck region, approximately 7% of all dermoids occurring in this region. (Som *et al.*, 2003; Taylor and Erich, 1967) Histologically, it contains two germ cell layers and skin appendages (e.g., hair follicles and sebaceous glands). An epidermoid cyst is less common in the neck than a dermoid cyst and is comprised solely of ectoderm. Dermoid/epidermoid cysts are frequently midline in location, typically arising either in the floor of mouth deep to the mylohyoid muscles or in the suprasternal notch. They may also occur in the orbit, nasal, and oral cavities. Dermoid cyst of the parotid gland is extremely rare, and due to this and absence of pathognomonic findings, it is often difficult to diagnose preoperatively. It must be differentiated from malignant tumours and other cystic lesions. Dermoid cysts usually recur after simple excision, so it is mandatory to excise it completely with a parotidectomy. This case presents a case report of parotid dermoid cyst with a brief review of literature.

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INTRODUCTION

Cystic lesions are common in the head and neck. The most common are the cutaneous cysts, which are referred to as epidermal cysts. These cysts present as nodular and fluctuant subcutaneous lesions and they are seen most commonly in the acne - prone areas like the head, neck and the back. They arise following a localized inflammation of the hair follicle and occasionally after the implantation of the epithelium, following a trauma or surgery. The presence of benign cystic lesions in the salivary glands is rare. We are presenting a rare case of a 33-year-old female who presented with a soft swelling on the right side of the face. A diagnosis of an epidermoid cyst was given on cytology. A superficial parotidectomy was performed and the histopathology confirmed the above diagnosis.

Case report

A 33 year old woman presented with a swelling in the right parotid area of her face since last 1 year. Since then the mass was a fluctuating mass alternately growing and shrinking slightly. Its size was maximum during presentation. It was not associated with pain, fever, weight loss and any other systemic abnormality. On palpation, the mass was appeared to be fluid-filled. It was non-tender and was not associated with any overlying skin changes. Fine needle aspiration of the swelling yielded a foul smelling, thick, pultaceous material. Its smears showed sheets of benign superficial and intermediate squamous cells in a background of a mild inflammatory infiltrate.

Ultrasonography showed mixed internal echoes due to fat content and shows the presence of osseo-dental structures within. CT Scan showed fat globules floating within the lesion along with fat and fluid levels. The patient underwent a right superficial parotidectomy. The tumour was removed en-bloc. Nerve integrity monitoring was maintained throughout the procedure. The post-operative period was incidence-free. Gross pathology of the excised specimen showed it to be a red-tan, spongy tissue that measured approximately 2x2 cms. Sectioning through the specimen revealed a thin-walled cyst with hair follicles and caseous materials. Histology demonstrated squamous epithelium lining the cyst wall. Adnexal elements like hair follicles, sebaceous glands and sweat glands were observed. Mesodermal elements of cartilage and adipose tissue were also noted.

DISCUSSION

Dermoid cysts of head and neck amount for nearly 7% of all dermoid cysts (Som *et al.*, 2003; Taylor and Erich, 1967). Dermoid cysts are predominantly seen in orbital, oral and nasal regions of head and neck. New and erich (New and Erich, 1937) grouped these cysts into 3 categories based on their pathogenesis and microscopic appearances. (A)-Congenital - Arising from embryonic germinal epithelium. Depending on the dormant germinal layer, they contain hair, skin or teeth and surrounded by a thick wall. (B)- Acquired dermoid cyst - These are as a result of traumatically implanted skin in deeper layers. They occur on the hands and other exposed part of the body. (C)- Congenital inclusion dermoid cysts - These develop from

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Figure 1. Photograph Showing Swelling In Right Parotid Region



Figure 2. Ct Scan Showing Mass in Right Parotid



Figure 3. Mass After Removal En-Bloc

inclusions of displaced dermal cells along the lines of embryonic fusion. The last category is again divided into 4 types according to its anatomic position and embryogenesis. (I)- Cysts about the eyes and orbits originating along the nasooptic groove.

(II)- These about the nose, resulting from intrusion of the frontonasal plate. (III)- These about the floor of the mouth and in the submental and submaxillary regions, originating from upper branchial arches. (IV)- A miscellaneous group, most of which occur at the midventral or middorsal lines of the body.

A dermoid cyst of the parotid gland is difficult to classify. It is not a midline structure of the body. So group IV is not suitable for explanation of its pathogenesis. Group III may be applied, but submental and submaxillary regions result from the sequestration of branchial arches during union with their fellows of opposite side, and this is not the case. A possible explanation may be inclusion of ectoderm during the development of branchial arch. Fine-needle aspiration cytology (FNAC) is a reliable adjunct to excision in that it is useful in preoperative planning (Baschinsky *et al.*, 1999). Both CT and MRI clearly define their anatomical location, extent, and internal appearance (Som *et al.*, 2003).

Histologically, a dermoid cyst of the parotid gland shows keratinisation of the squamous epithelium associated with skin appendages, such as hair follicles, sweat glands and sebaceous glands as seen in other head and neck cysts such as nasal and orbital lesions. But simple excision may produce microscopic residual tissue which may result in recurrence. With regard to surgical technique, careful dissection beyond the cyst wall is necessary in order to prevent recurrence (Choi *et al.*, 1988).

Conclusion

Epidermoid/Dermoid cysts of the parotid gland are rare entities, with only few cases having been mentioned in the literature. Epidermoid/Dermoid cysts can be considered as a differential diagnosis in cases with a recurrent, painless enlargement of the parotid gland which has a soft consistency. Our case has explained the significance of an accurate pre-operative diagnosis of a benign cystic lesion of the parotid and its significance in its further management.

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