

Teratomas of Head and Neck: An Observational Study

D C Sathyaki¹, N S Susmitha², Mereen Susan Roy¹, Nibha Raghu³, Razal M Sheriff³

¹Assistant Professor, Department of ENT, Sri Siddhartha Medical College, Tumkur, Karnataka, India, ²Assistant Professor, Department of Pathology, Sri Siddhartha Medical College, Tumkur, Karnataka, India, ³Post-graduate Student, Department of ENT, Sri Siddhartha Medical College, Tumkur, Karnataka, India

Abstract

Background: Epidermoids are ectoderm lined inclusion cysts which can be present anywhere in the body, but are rare in head and neck.

Objectives: Although only 7% of the epidermoid cysts occur in head and neck region they are a part of differential diagnosis of neck swellings.

Materials and Methods: Cases which were proven as dermoid or epidermoid cysts by FNAC or by histopathology.

Observation: Male patients were more affected than female patients.

Conclusion: Complete removal should be carried out to prevent recurrence.

Key words: Teratoma, Dermoid cysts, Epidermoid cysts, Head and neck, Oropharynx

INTRODUCTION

Dermoids and epidermoids are ectoderm lined inclusion cysts that differ in complexity. Epidermoids contain squamous epithelium only whereas dermoids contain hair, sebaceous and sweat glands along with squamous epithelium. Both arise from trapped pouches of ectoderm, near normal folds or from failure of surface ectoderm to separate from the neural tube. These slowly expanding, unilocular cystic masses usually produce mild symptoms.¹ Dermoids consists of several parenchymal cells arising from ectoderm, mesoderm, and endoderm. Only 7% of them occur in head and neck region.² They commonly occur in the orbit, calvarial diploic space and intracranially.¹ They are rarer in oropharynx.³ In this study, we present a series of dermoid and epidermoid cysts who presented to our institution over a period of 1 year.

MATERIALS AND METHODS

This was an observational study carried out in the department of otorhinolaryngology, Sri Siddhartha Medical College, Tumkur, Karnataka from January 2016 to December 2016. A total of 60 patients of the 3432 outpatients were included. In the same period, 500 cases of dermoid and epidermoid cysts were diagnosed in various departments of our institution.

Patients aged more than 16 years who presented with longstanding swelling in the head and neck region, which were proven as dermoid or epidermoid cyst either by FNAC or histopathological examination were included in the study.

The selected patients were subjected to detailed history followed by complete clinical examination. All patients underwent either ultrasonography or computed tomography over the region of the swelling. They also underwent FNAC of the swelling and the diagnosis of dermoid or epidermoid cyst was made. Patients later underwent surgical excision and the diagnosis was confirmed by histopathology.

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Corresponding Author: Dr. D C Sathyaki, Sri Siddhartha Medical College, Agalakote, Tumkur, Karnataka, India. Phone: +91-9900284892. E-mail: sathyaki_dc@yahoo.co.in

Procedures

Patients with postaural epidermoid cysts underwent excision of the lesion through postaural approach (Wilde's incision) under local anesthesia with sedation. Patients with epidermoid cyst in the parotid region and preauricular region underwent excision through standard parotidectomy approach. In case of epidermoid cyst over the maxilla, sublabial approach was followed. In case of epidermoid cyst over forehead and posterior triangle an elliptical incision was made and the cyst was dissected. In case of oropharyngeal dermoid tonsillectomy was performed along with cyst excision.

RESULTS

In this study, the age of patients varied between 20 years and 60 years. They were no patients who were above 61 years (Table 1).

In this series, three groups had 2 patients each. There was no patient belonging to the age group of 41-50 years.

The age group of outpatients during that period was as follows (Table 2).

The chi-square test done shows the difference between the age group prevalence is not significant.

Sex Distribution

In this series, there were 50 male patients and 10 female patients (Table 3).

Sex distribution among our outpatients was as follows (Table 4).

Site Distribution

In this series, there were 25 patients with epidermoid cysts in the postauricular region, 10 patients in the parotid region, 10 in the preauricular, 5 over the maxilla and fore head, 4 in the posterior triangle and 1 in the oropharynx (Table 5).

DISCUSSION

Epidermoids are derived from ectoderm, but they are inclusion cysts that are lined only by squamous epithelium. A dermoid is also an ectodermal inclusion cyst, but it contains more complex tissues which are also derived from ectoderm.¹ Teratoma is derived from the Greek word "teraton" meaning monster. Teratoma need not necessarily contain tissues derived from all three germ layers.³ A teratoma can be defined as a true neoplasm that contains tissues that are either foreign to

Table 1: Age group of teratoma patients

Age group	Number of cases (%)
21-30	15 (25)
31-40	20 (33.3)
41-50	10 (16.7)
51-60	15 (25)

Table 2: Age group of out patients

Age group	Number of outpatients	Percentage	Number of cases
21-30	549	16	15
31-40	755	22	20
41-50	961	28	10
51-60	412	12	15
61<	755	22	Nil

Table 3: Sex distribution of teratoma patients

Sex	Number of cases (%)
Males	50 (83.3)
Females	10 (16.7)

Table 4: Sex distribution of out patients

Sex	Number of outpatients	Percentage	Number of cases
Males	1842	53.7	50
Females	1590	46.3	10

Table 5: Site distribution

Site	Number of cases (%)
Postauricular	25 (41.7)
Parotid	10 (16.7)
Preauricular	10 (16.7)
Over the maxilla	5 (8.3)
Posterior triangle	4 (6.7)
Fore head	5 (8.3)
Oropharynx	1 (1.67)

the primary site of origin or histologically diverse and represent more than one of the embryonic germ layers. The designation of teratoma may be appropriate even for a lesion with tissues derived from a single embryonic germ layer, if the tumor shows histologically divergent differentiation. Such teratomas can be found in the head and neck and can be purely ectodermal.¹ Teratomas are of four types. Dermoids that are composed of both ectoderm and mesoderm. Teratoid tumors are composed of all three germ layers but are poorly differentiated. True teratomas where all germ layers are well differentiated into specific tissues. Epignathi are limb-like structures protruding from the mouth and present the highest form of teratoma differentiation in which fetal organs have developed.³

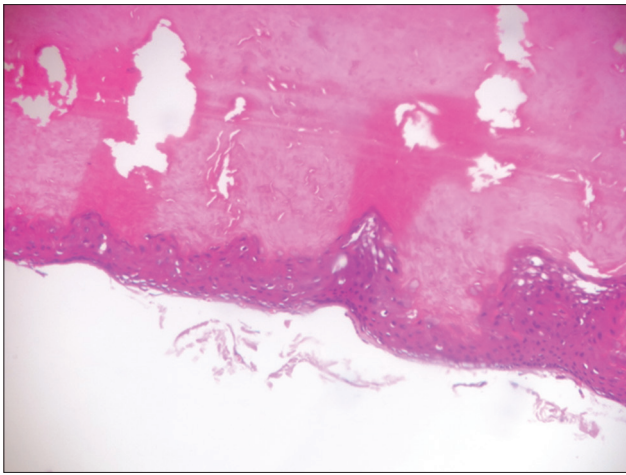


Figure 1: Histopathological examination under 40X magnification

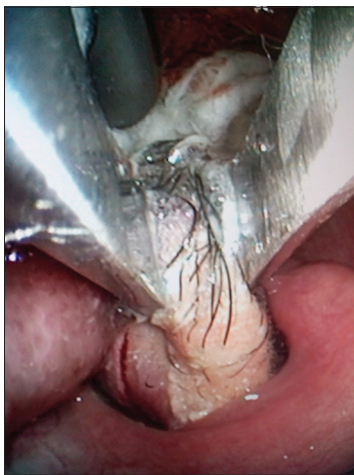


Figure 2: Tonsillectomy



Figure 3: Gross specimen

Epidermoid cysts can be of congenital or acquired type. Congenital type is due to entrapment of ectodermal

substance between the midline fusion of first and second branchial arches during third and fourth intrauterine life. Acquired type cysts usually occur because of infection around pilosebaceous follicle and sometime deep implantation of epidermis due to penetrating or blunt injury. It is a slow growing and nontender mass. When it is present in dermis, it can raise epidermis to produce a firm elastic dome-shaped protuberance which is mobile over the deeper structures. They grow slowly and may become inflamed and firm gradually. Suppuration may occur.²

Manoharan *et al.* reported postauricular sinuses are the most common etiology for recurrent postaural abscess followed by dermoid cyst.³ Ravindranath *et al.* reported epidermoid cyst to be most common in the lateral side of the neck and gingiva followed by the forehead region.⁴ Dhabholkar *et al.* reported 3 cases of dermoid cysts out of which 2 were located in the floor of the mouth and another in the midline of the neck.⁶ Ultrasonography is the best investigation for these types of cyst. It is economical, reliable, and without radiation exposure. Surgical excision of the cyst is often required and the entire cyst wall is removed to prevent recurrence. Incomplete removal is common if attempted in the presence of recent infection.²

CONCLUSION

Although only 7% of the dermoid and epidermoid cysts occur in head and neck, they form an important differential diagnosis of head and neck swellings among adults. A unilateral tonsillar enlargement is often considered as Quinsy, tonsillar cyst or malignancy, but congenital teratoma should be considered as a differential diagnosis. Surgical excision is required and histopathological examination should be mandatory. Complete removal must be carried out to prevent recurrence.

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