CLINICO-PATHOLOGICAL STUDY OF SKIN ADNEXAL TUMOURS IN A TERTIARY CARE HOSPITAL

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ABSTRACT

BACKGROUND

Skin adnexal tumours are relatively uncommon tumours. They include a heterogeneous group of neoplasms showing morphological differentiation towards pilosebaceous unit, eccrine or apocrine structures.¹

AIM

The aim of this study is to analyse the clinico-pathological features of various skin adnexal tumours from the medical records of the Department of Pathology in a tertiary care hospital.

MATERIALS AND METHODS

A retrospective 3 years clinico-pathological study of all skin adnexal tumours observed at our Institution from 2013 to 2015 was carried out. The clinical parameters and histopathological features of various histological types of skin adnexal tumours encountered were documented with review of literature. Fine Needle Aspiration Cytological (FNAC) details for certain available cases were also incorporated in the study.

RESULTS

Total number of skin adnexal tumours encountered in this study were 31 with maximum incidence among 31-40 years' age group and Male:Female ratio of 1.06:1. Around 77% of skin adnexal tumours occurred in the Head and Neck region; 90.3% were benign and 9.7% were malignant tumours. Majority of these tumours were Eccrine tumours (51.6%) followed by Hair follicle tumours (29%), Apocrine (12.9%) and Sebaceous tumours (6.5%). Nodular hidradenoma was the most common benign skin adnexal tumour, while sebaceous carcinoma was the common malignant adnexal tumour encountered in this study. FNAC correlation was available for two cases of Nodular Hidradenoma and one case of malignant chondroid syringoma. Follow-up details were available for 21 cases. All the benign tumours showed complete cure following excision, while malignant chondroid syringoma showed local recurrence within 3 months of surgical excision.

CONCLUSION

The diagnosis of skin adnexal tumours is solely based upon histopathological examination. Owing to their varied lines of differentiation, overlapping morphological patterns and histological diversity they pose diagnostic challenge to the pathologists.

KEYWORDS

Skin Adnexal Tumours, Clinico-pathological Study.

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INTRODUCTION

Skin adnexal tumours are relatively uncommon tumours. They include a broad category of neoplasms showing morphological differentiation towards pilosebaceous unit, eccrine or apocrine structures.¹ Most of these neoplasms follow a benign course, although malignant transformation can occur rarely. Clinically, most of these tumours present as asymptomatic papules or nodules making histopathological examination as the confirmatory method of diagnosis.²

This retrospective 3 years (2013-2015) study is intended to analyse the clinicopathological features of various skin adnexal tumours from the medical records of the Department of Pathology in a tertiary care hospital. The results are presented below with a review of literature.

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MATERIALS AND METHODS

We undertook a retrospective clinico-pathological study of all skin adnexal tumours observed at our Institution from 2013 to 2015. The clinical parameters were documented. The corresponding Haematoxylin and Eosin stained histological slides were examined and various histological types of skin adnexal tumours encountered were documented according to WHO classification.¹ Fine Needle Aspiration Cytological (FNAC) details for certain available cases were also incorporated in the study.

RESULTS

- Total number of skin adnexal tumours encountered in this study were 31.
- Skin adnexal tumours were observed in a wide range of age group in this study with maximum incidence among 31-40 years' age group.

There was no striking sex difference in the incidence of skin adnexal tumours in our study with Male:Female ratio of 1.06:1.

24 (77%) out of 31 cases of skin adnexal tumours occurred in the Head and Neck region, among which most of them were seen in the Scalp (12) followed by Face (7) and Neck (5).

Out of the total 31 cases of skin adnexal tumours, 28 (90.3%) were benign and 3 (9.7%) were malignant.

Of the 31 skin adnexal tumours, majority were Eccrine tumours (51.6%) followed by Hair follicle tumours (29%), Apocrine (12.9%) and Sebaceous tumours (6.5%).

Nodular hidradenoma was the most common benign skin adnexal tumour, while Sebaceous carcinoma was the common malignant adnexal tumour encountered in this study.

Sl. No.	Benign		Malignant	
	Histological Type	No. of Cases	Histological Type	No. of Cases
A) Eccrine Tumours				
1.	Nodular Hidradenoma	5	Malignant chondroid syringoma	1
2.	Cylindroma	2		
3.	Poroma	3		
4.	Spiradenoma	1		
5.	Chondroid syringoma	3		
6.	Syringoma	1		
B) Hair Follicle Tumours				
1.	Trichofolliculoma	1		
2.	Trichoepithelioma	3		
3.	Pilomatricoma	3		
4.	Proliferating trichilemmal cyst	2		
C) Apocrine Tumours				
1.	Hidradenoma papilliferum	2		
2.	Syringocystadenoma papilliferum	2		
D) Sebaceous Tumours				
1.	-	-	Sebaceous Carcinoma	2
Total		28	Total	3

- FNAC correlation was available for two cases of Nodular Hidradenoma (Fig. 7B) and one case of malignant chondroid syringoma (Fig. 8C, D, E).
- Out of the 31 skin adnexal tumours, follow-up details were available for 21 cases. All the benign tumours showed complete cure following excision, while malignant chondroid syringoma showed local recurrence within 3 months of surgical excision.

Fig. 1: Trichoepithelioma-Islands of Basaloid Cells with Horn Cysts & Papillary Mesenchymal Bodies

Fig. 2: Pilomatrixoma-Basophilic Cells & Shadow Cells

Fig. 3: Syringocystadenoma Papilliferum- Papillae with Plasma Cells in Stromal Core

Fig. 4: Hidradenoma Papilliferum-Papillae with Decapitated Secretions

Fig. 5: Poroma-Anastomosing Cords of Epithelial Cells in Dermis

Fig. 6: Cylindroma-Jigsaw Puzzle Pattern of Tumour Lobules in Dermis with Hyaline Sheath

Fig. 7: Nodular Hidradenoma A) HPE-Lobules of Tumour Cells with Cystic Change. B) FNAC-Clusters of Benign Duct Epithelial Cells. C) Gross: Dermal Lesion with Solid & Cystic Areas

Fig. 8: Chondroid Syringoma A) Benign Epithelial Lined Tubules & Chondroid Stroma in Dermis B) Malignant Cells in Chondroid Stroma C) Post-Auricular Swelling D) 10x: FNAC- Epithelial & Stromal Component E) 40x: FNAC- Malignant Epithelial Cells in Chondroid Matrix

Fig. 9: Sebaceous Carcinoma- A) 10x: showing Nests of Tumour Cells B) 40x: showing Cells with Foamy Vacuolated Cytoplasm & Pleomorphic Nuclei in Center and Undifferentiated Cells in Periphery

DISCUSSION

Skin adnexal tumours encompass a broad group of tumours derived from multipotential undifferentiated cells located in the epidermis and associated adnexal structures.² The most common age group of occurrence of these tumours in this study was 31-40 years as against the studies of Ankit et al² (51-60 years) and Radhika et al³ (21-30 years). These tumours showed almost equal incidence in both sexes similar to the findings of Radhika et al³ and Vani et al.⁴ Head and neck was the most common site in our study, which was in concordance with literature.^{2,3,4} Benign tumours outnumbered malignant tumours as highlighted by various studies and most of these tumours showed eccrine differentiation similar to the studies of Vani et al⁴ and Pradeep S. Nair.

Nodular Hidradenoma was the most common benign eccrine tumour encountered in this study and it coincided with literature.^{2,3,4} It is a dermal neoplasm composed of epithelial lobules comprising of polyhedral to round cells with basophilic to clear cytoplasm.⁵ (Fig. 7). Eccrine poromas grow as downward extensions from the lower layers of epidermis into the dermis in the form of anastomosing cords of epithelial cells (Fig. 5). Chondroid syringoma mostly occurs in the head and neck region^{6,7,8} similar to our study and histologically shows tubules and cords of cuboidal epithelial cells embedded in an abundant chondromyxoid stroma. Malignant chondroid syringoma shows sheets and cords of atypical epithelial cells in chondroid stromal matrix with increased mitoses, necrosis and adjacent soft tissue infiltration hindering complete excision, thereby resulting in local recurrences⁵ similar to our case (Fig. 8). Cyndromas exhibit islands of benign epithelial cells in "jigsaw puzzle" pattern with a hyaline sheath surrounding the epithelial islands (Fig. 6). Eccrine spiradenomas are painful dermal nodules composed of lobular arrangement of two types of epithelial cells - one with scant cytoplasm and dark nuclei in the periphery and the other with large pale nuclei in the center of lobules. Syringomas are characterised by small ducts lined by two rows of epithelial cells and some ducts show typical "Tadpole appearance" embedded in a fibrous stroma.

Among the hair follicular tumours, Trichoepithelioma and Pilomatricoma were the common types observed in this study. Trichoepitheliomas are characterised by cords and islands of basaloid tumour cells within dermis, peripheral palisading of tumour cells, horn cysts and papillary mesenchymal bodies (Fig. 1). Pilomatricomas are composed of two types of cells namely basophilic and shadow cells with areas of calcification (Fig. 2). Trichofolliculomas show squamous epithelium lined cystic cavity within dermis enclosing keratinous material and hair shafts with numerous small secondary hair follicles emanating from the cyst wall. Proliferating Trichilemmal cysts are characterised by varying sized lobules of squamous epithelium showing abrupt keratinisation.

Sebaceous carcinoma (Ocular type) most commonly occurs in the eyelids⁵ similar to our study and is of Meibomian

gland origin. Microscopically, it shows lobules of varying sizes composed of sebaceous cells with foamy cytoplasm and pleomorphic nuclei in the center and undifferentiated cells towards the periphery of lobules (Fig. 9).

The two apocrine tumours in this study were Hidradenoma papilliferum and Syringocystadenoma papilliferum. Hidradenoma papilliferum commonly occurs in women with labia majora being the frequent site^{6,5} similar to the present study. It is a dermal based capsulated tumour composed of single row of columnar epithelial lined papillary projections into cystic spaces containing decapitated secretions (Fig. 4). Syringocystadenoma papilliferum is characterised by dermal cystic invaginations from the epidermis. The lumen of the cyst shows papillae lined by two layers of epithelial cells, inner columnar and outer cuboidal with plasma cells in the fibrovascular core (Fig. 3).

CONCLUSION

Skin adnexal tumours are relatively less common group of tumours and the diagnosis of these tumours is solely based upon histopathological examination. Owing to their varied lines of differentiation, overlapping morphological patterns and histological diversity, they pose diagnostic challenge to the pathologists. Hence, this study is undertaken to emphasize the rarity, varied pathological features and clinical course of this category of tumours.

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