

A Study of Cutaneous Adnexal Lesions-A Two Year Institutional Study

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Abstract

Introduction: Tumors arising from the skin comprises a gamut of benign and malignant cutaneous lesions. Histopathology study of these lesions is quiet challenging due to its varied presentation.

Aim: This cross sectional descriptive study is focussed to analyse the various cutaneous adnexal tumors with regard to age, sex, site, size, behaviour, origin of these tumors and to correlate with the clinical presentation.

Methodology: 100 cutaneous adnexal lesions reported in the Department of Pathology, Stanley Medical College over a period of 2 years were taken up for the study. Sections were stained with routine haematoxylin and eosin stains followed by histopathological examination.

Results: Out of the 100 cases 97 were benign and 3 were of malignant skin adnexal tumors. Sweat gland tumors were the most common tumors encountered and accounted to 51%.

Conclusion: Though skin adnexal tumors are a rarity we recorded 97 benign and 3 cases of malignant adnexal tumors. Histopathological evaluation is of great value in arriving at a diagnosis of such lesions thereby aiding appropriate management.

Keywords: Histomorphology, hair follicular differentiation, skin adnexal tumors

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I. Introduction

An array of skin adnexal neoplasms have been included in the WHO histological classification. Incidence of these tumors account to 1-2% in India with a cumulative incidence of 0.5 to 2 per 10,000 population according to various tumor registries. [1]. Diagnosing these tumors is a dilemma as the line of differentiation varies and may overlap in certain tumors, since origin of these tumors may be from multipotential undifferentiated cells present within the epidermis or adnexal structures [2].

II. Material and Methods

A cross sectional descriptive study of 100 cutaneous adnexal lesions reported in The Department of Pathology during the period of 2015-2017 was taken up for the study. Sections were processed and stained with routine haematoxylin and eosin stains followed by histopathological examination.

III. Results

Out of the 100 cases 97% were benign and 3% were of malignant skin adnexal tumors (Fig.7). The age group ranged from 10 to 70 yrs with the highest incidence of occurrence in the age group of 20 to 40 yrs. (Table.1) The most common sex predilection was males (Table.2). Head and neck was the most common site affected accounting to 32% with most of the cases presenting in the scalp and face. Sweat gland tumors were the most common tumors encountered accounting to 51%. followed by hair follicle tumors accounting to 15%. Trichoadenoma and trichofolliculoma were some of the rare benign lesions studied. Among the rare malignant lesions it was eccrine mucinous carcinoma and porocarcinoma.

IV. Discussion

Skin adnexal tumors are relatively rare tumors presenting in a wide spectrum of morphological patterns. These lesions pose a diagnostic dilemma and clinical presentation aids in the histomorphological examination in clinching the diagnosis. In our study benign tumors outnumbered the malignant tumors and accounted to 97%. Studies conducted by Alam et al and Radhika et al also showed increased incidence of benign tumors [3,4]. The commonest age group affected was between 31 and 40 yrs and the predominant sex predilection was males. Head and neck was the commonest site of occurrence with an incidence of 4.3%. This correlated well with the study conducted by Subha P. Bhat [5] Most of these tumors presented as nodular

lesions. Benign lesions such as syringoma, trichoadenoma, trichoepithelioma, eccrine hydrocystoma, syringocystadenoma papilliferum, hidradenoma papilliferum, proliferating trichilemmal tumor, chondroid syringoma, pilomatrixoma, eccrine spiradenoma (Fig.3). and eccrine poroma were reported in this study. Uncommon malignant lesions such as sebaceous carcinoma, porocarcinoma and eccrine mucinous carcinoma were recorded in the above study. Sweat gland tumors were the commonest lesions encountered in our study, which was followed by hair follicular tumors. Only 2 sebaceous tumors were recorded. This was in accordance to the study conducted by Vani.D. et al [6]. Nodular hidradenoma was the most common tumor encountered and accounted to 28%. Studies conducted by Radhika.K et al also recorded the same (4). Syringoma is an eccrine sweat gland tumor occurring commonly in females with predilection to sites such as face, neck, vulva, axilla, neck, abdomen and extremities. Clinically these asymptomatic lesions present as multiple, small, firm skin colored or yellowish papules of size 1 to 3mm in diameter. The site of occurrence in our study was in the neck and vulva. Vulvar syringoma has been seen frequently in association with extragenital lesions as documented by J.J. Miranda [7]. We did not document any such association with extragenital lesions in the present study. Histopathology shows comma shaped extensions also referred as “paisley pattern” or “tadpole pattern” which are ducts lined by bilayered cuboidal epithelium in a fibrotic stroma. Yu-Huei Huang recorded 15 cases of vulvar syringoma in his study and concluded that it has to be considered in the differentials of vulvar pruritis [8]

Trichoadenoma is a rare benign lesion first described by Nikolowski in the year 1958. It is a slow growing tumor which differentiates towards the infundibular portion of pilosebaceous unit [9]. It is also supported by the theory that it differentiates towards the infundibular and follicular bulge region according to the keratin profile expression [10,11]. It presents as a nodule in sites such as face, thigh, shoulder, neck and shaft of penis. Histomorphology shows a well circumscribed dermal tumor with multiple horn cysts lined by benign infundibulum-like squamous epithelium. We encountered a single case of trichoadenoma and trichofolliculoma in this study. Trichoepithelioma, a rare hair follicular lesion is of epithelial-mesenchymal origin. [12]. We recorded 7 cases of trichoepithelioma. Recently it has been found out that multiple familial trichoepithelioma is associated with mutation in the CYLD gene [13]. Eccrine hydrocystoma is a rare benign cystic lesion of the skin of eccrine or apocrine origin and are most common in the head, neck and trunk regions. These asymptomatic lesions may be solitary or multiple. Multiple lesions are more common in rare inherited disorders such as Schopf-Schulz-Passarge syndrome and the Goltz-Gorlin syndrome [6]. Syringocystadenoma papilliferum (Fig.1&2) accounted to 4.0% in our study. This exceedingly rare hamartomatous lesion derived from apocrine sweat glands presents more commonly at birth or during infancy and has a tendency to proliferate around puberty [14]. The nodular, linear and plaque forms are the 3 commonly recognized clinical presentation. Our case presented as a solitary nodular lesion in the face. Hidradenoma papilliferum, a benign tumor of apocrine differentiation is a slow growing, skin colored nodular neoplasm occurring more commonly in females in the anogenital region. Histopathologic examination helps in clinching the diagnosis which shows broad and micropapillae lined by luminal columnar cells and abluminal cuboidal cells enclosing broad fibrous core with aggregates of plasma cells and lymphocytes. Proliferating trichilemmal tumor is a rare neoplasm more commonly seen as a nodular lesion on the scalp. Trichilemmal keratinisation is the hallmark of this tumor and helps in diagnosing this rare entity. Sebaceous carcinoma, is a rare tumor of eyelid with male preponderance and is aggressive in nature. It is associated with Muir-Torre syndrome. The upper eyelid is the most common site as there is a predominance of Meibomian glands. We reported a case of sebaceous carcinoma in the left upper eyelid in a 60 year old male which presented as a painless subcutaneous nodule. Eccrine porocarcinoma is a rare malignant sweat gland tumor, described first by Pinkus and Mehregan as Epidermotropic eccrine carcinoma [15]. We encountered a case of eccrine porocarcinoma which presented as a verrucous lesion in the right axillary region. Histomorphology revealed a tumor composed of sheets, nests and cords of porocarcinomatous cells with round to oval nuclei and variable amount of cytoplasm. An unusual case of Eccrine mucinous carcinoma (Fig.4&5) of the scalp was reported. This lesion presented as a small nodule measuring 2x2x1cm. Cut section was gray white with focal mucinous areas. Histology showed stratified squamous epithelium with the underlying dermis showing small tumor cell clusters arranged in nests and cords floating in large pools of mucin separated by thin fibrovascular septa. PAS stain (Fig.6) showed positivity for mucin. Primary tumor elsewhere throughout the body was ruled out.

V. Conclusion

Histomorphology aids in the accurate diagnosis thereby helping the clinician to institute an appropriate treatment plan. In our study nodular hidradenoma was the most common sweat gland tumor and pilomatrixoma was the most common hair follicular tumor. Rare malignant tumors such as sebaceous carcinoma, eccrine porocarcinoma and eccrine mucinous carcinoma were encountered. Histological examination is the gold standard in the study of cutaneous skin adnexal lesions due to the wide spectrum of presentation.

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Figure 1: Syringocystadenoma papilliferum:Complex papillae enclosing sheets of plasma cells.

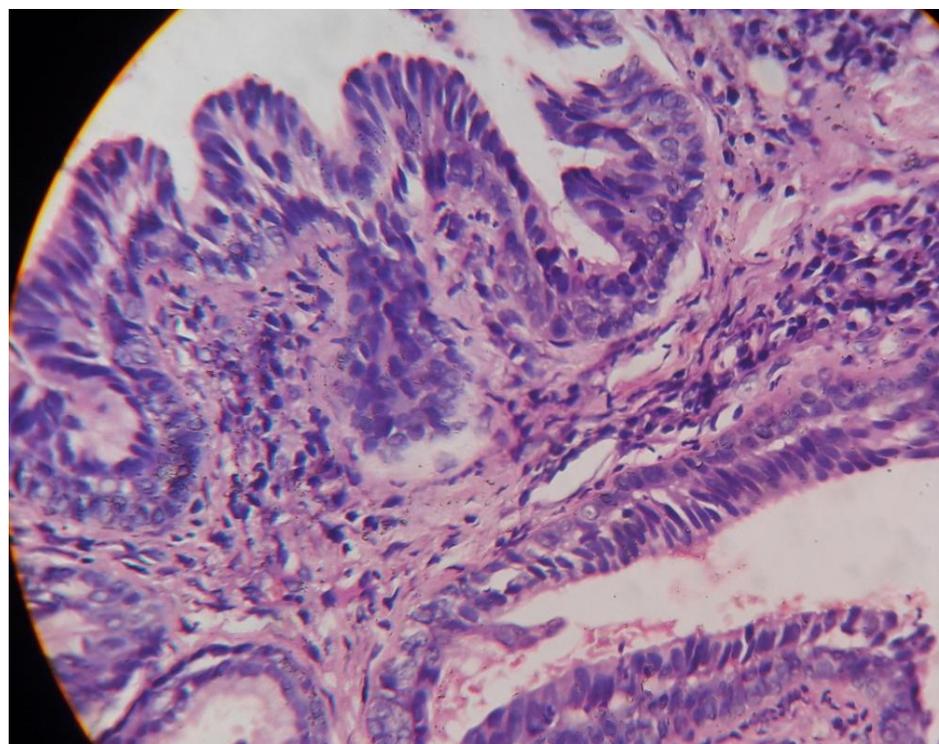


Figure 2 : Syringocystadenoma papilliferum :Papillary projection lined by two layers of epithelial cells

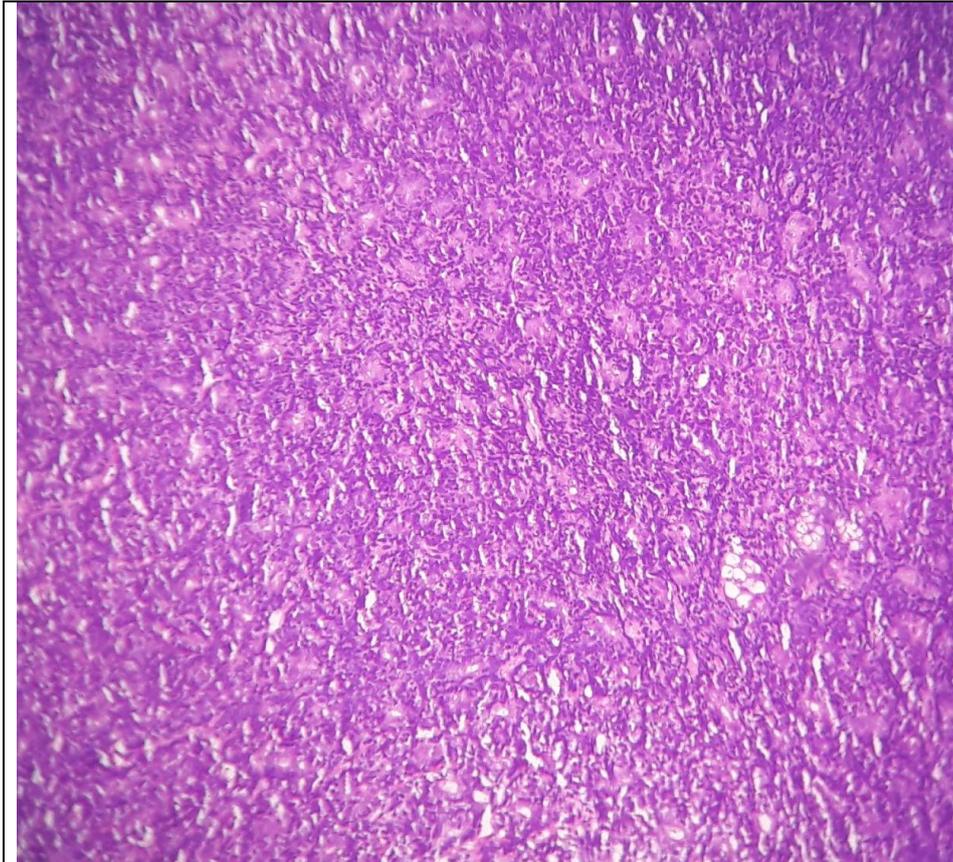


Figure 3: Eccrine spiradenoma: Cellular neoplasm with dark staining cells in the periphery and large paler cells in the centre

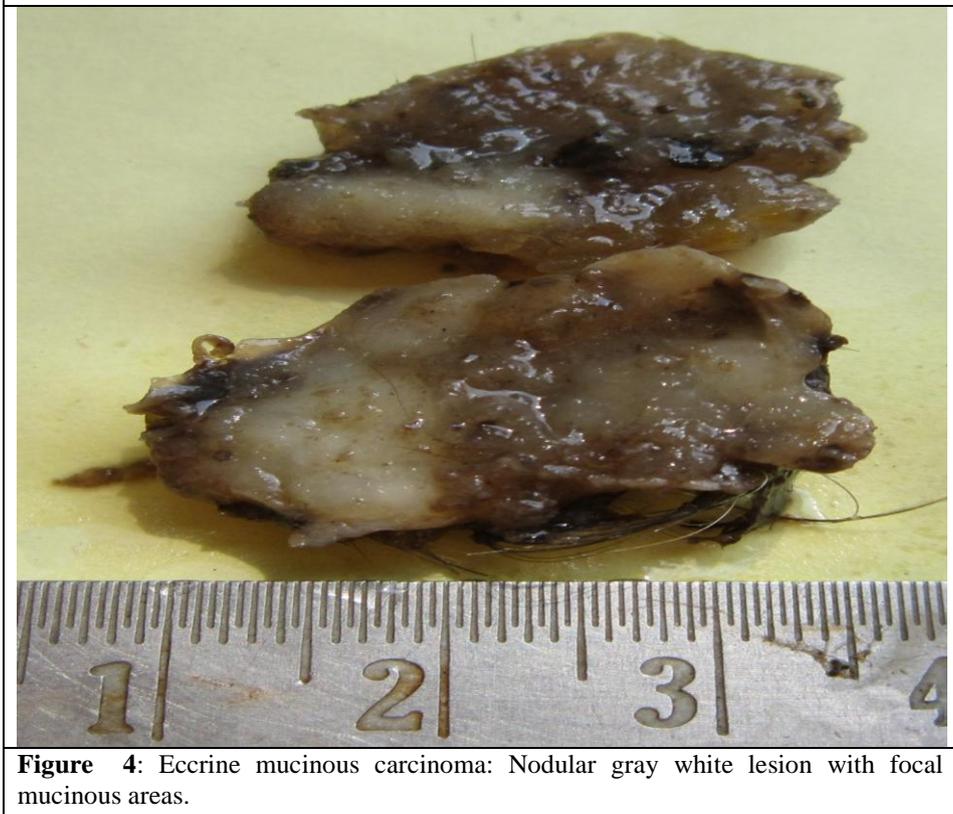


Figure 4: Eccrine mucinous carcinoma: Nodular gray white lesion with focal mucinous areas.

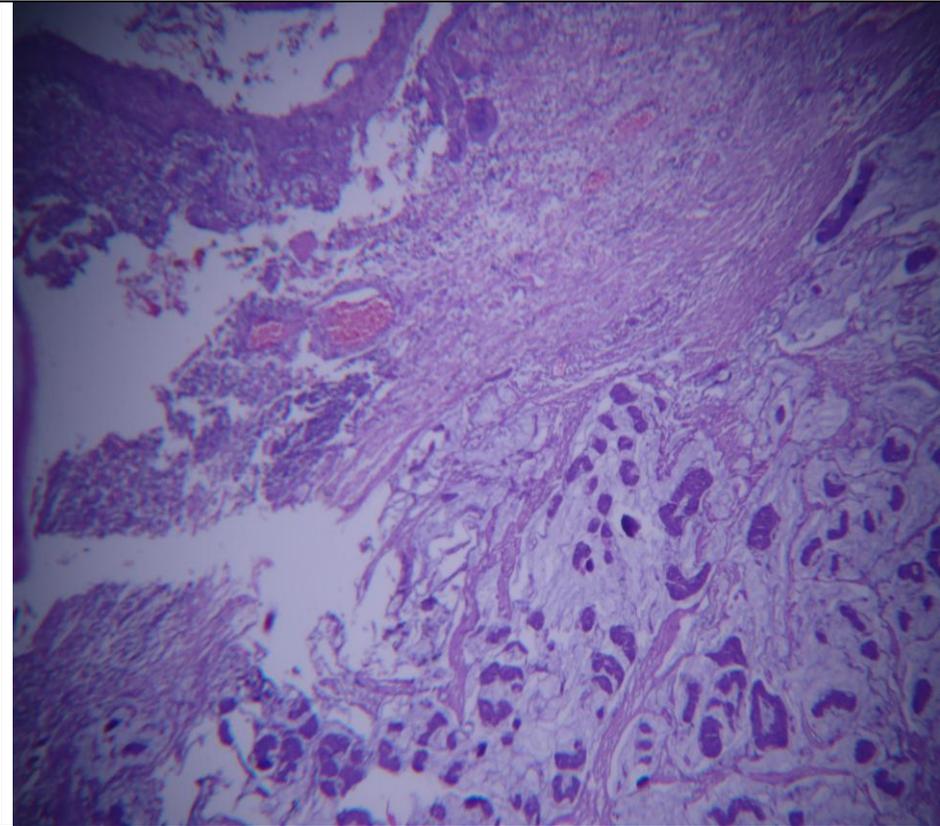


Figure 5: Eccrine mucinous carcinoma: Skin with dermis showing tumor cell nests in pools of mucin separated by delicate fibrous septa

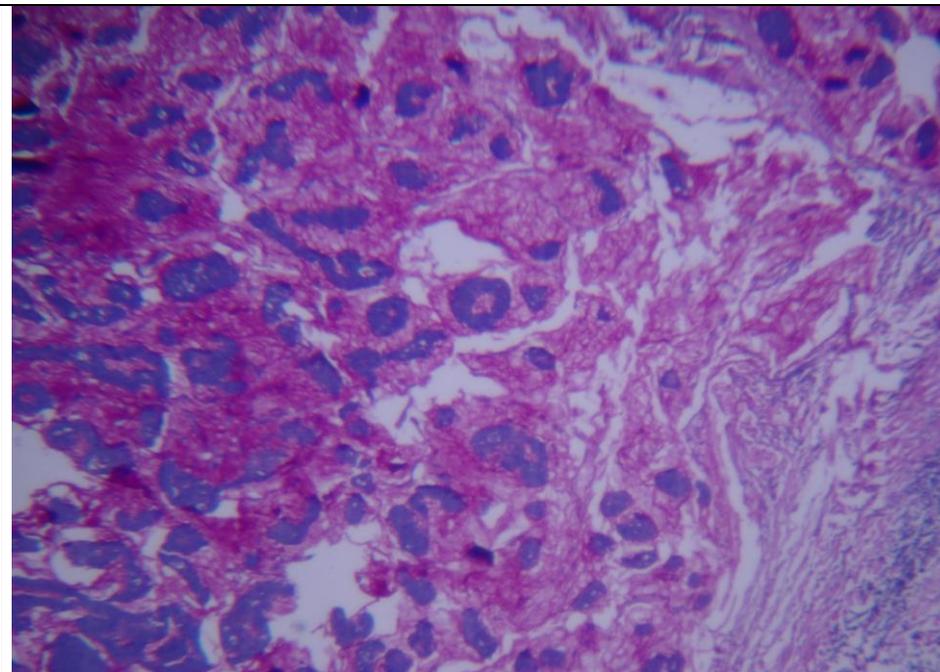


Figure 6: Eccrine mucinous carcinoma: PAS staining of mucin pools

Table 1: Age distribution of Adnexal Tumours

S.NO	TUMORS	Age groups (in years)				
		1-10	11-20	21-30	31-40	41-50
	Sweat gland tumors					

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1	Chondroid syringoma					4	2
2	Eccrine poroma			11			1
3	Nodular hidradenoma	1		5		5	5
4	Apocrine hidrocystoma					1	
5	Syringocystadenoma papilliferum			3		1	
6	Eccrine spiradenoma						1
7	hidradenoma papilliferum					3	3
8	Eccrine porocarcinoma						1
9	Eccrine mucinous carcinoma						
	Sebaceous gland tumors						
10	Sebaceous adenoma			1			
11	Sebaceous carcinoma					1	
	Hair follicle tumors						
12	Trichoadenoma						
13	Trichoepithelioma					3	1
14.	Trichofolliculoma(Sebaceous)						1
15	Pilomatricoma	2	4	2		4	2
16	Proliferating trichilemmal cyst		4	2		2	
	TOTAL	3	8	24		24	17

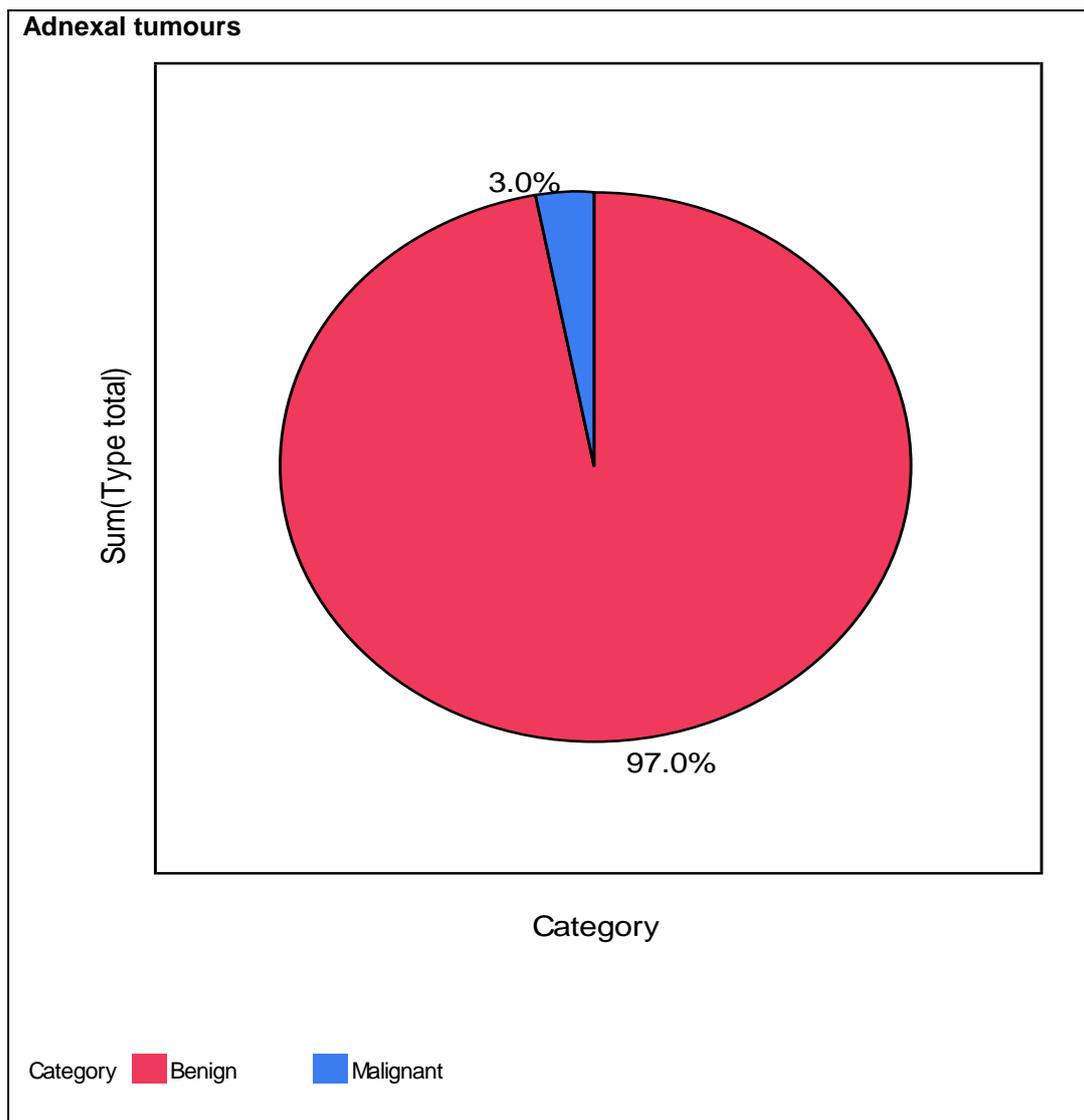


Figure 7:Proportion of Benign and Malignant tumours.

Table 2: Gender distribution of Adnexal Tumours

S.NO	SITE OF TUMORS	MALE	FEMALE	TOTAL	Male to female ratio	Percentage incidence (%)
1	Head and neck					
	Scalp	22	10	32	2.2	32.0%
	Face	12	8	20	1.5	20.0%
	Neck	0	1	1	0.0	1.0%
2	Trunk	4	7	11	0.6	11.0%
3	Upper limb	5	8	13	0.6	13.0%
4	Lower limb	14	9	23	1.6	23.0%
5	Not specified	0	0	0		0.0%
	TOTAL	57	43	100		100%

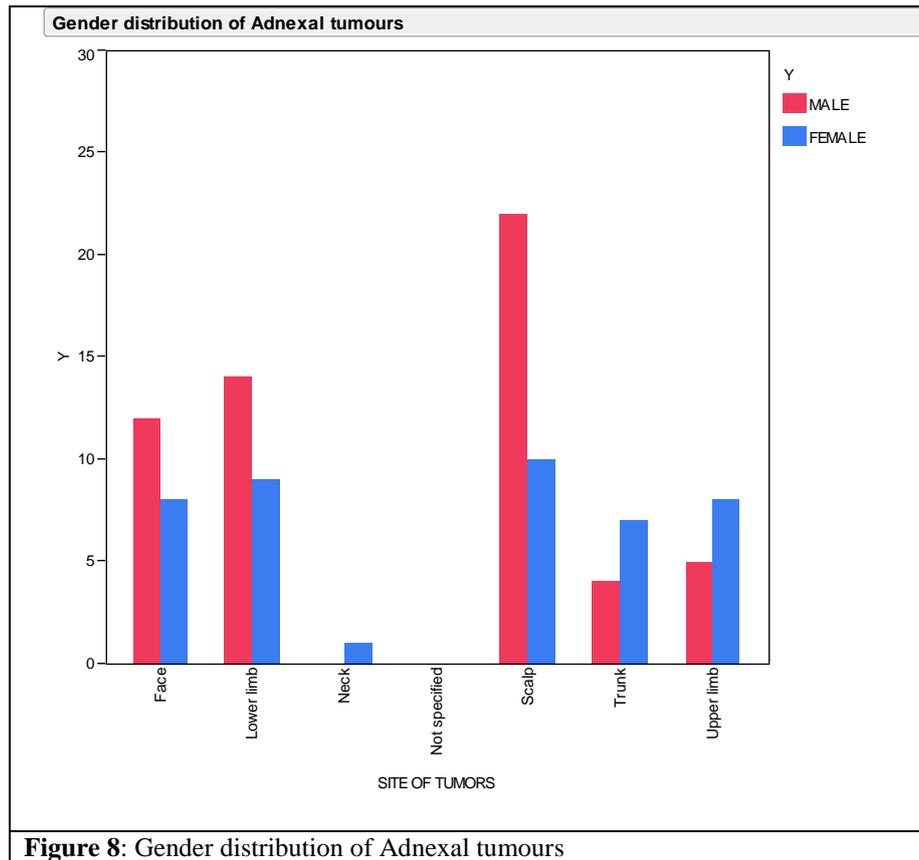


Figure 8: Gender distribution of Adnexal tumours

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