IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)
e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 20, Issue 9 Ser.7 (September. 2021), PP 52-56
www.iosrjournals.org

A Clinico-Pathological Study of Appendageal Tumors of Skin at a Tertiary Care Hospital

Mahalakshmi peruri[1], D.A.N.Maithili[2],M.Kiranmai[3]
[1](*Departmentof DVL,Siddhartha medical college,Dr.NTR University of medical sciences,India)*
[2](*Department of DVL,Siddhartha medical college,Dr.NTR University of medical sciences,India)*
[3](*Department of DVL,Siddhartha medical college,Dr.NTR University of medical sciences,India)*

Abstract
Background:*The appendageal tumors of skin encompass a wide variety with histologically distinct features, commonly seen in head and neck. The aim of this study is to determine the pattern of appendageal tumors in skin biopsies.*
Materials & Methods:*This is a one-year retrospective study of patients of all ages and both sexes who attended OPD in department of DVL, SMC, GGH, VIJAYAWADA who were diagnosed to have skin appendageal tumors andconfirmed by histopathology.*
Results: *The total number of cases in the study was 25 - 10males and 15 females. Tumors with eccrine differentiation constituted the maximum, 15 cases (60%); followed by tumors with hair differentiation, 5 cases (20%); tumors with sebaceous differentiation, 3cases (12%); and apocrine tumors, 2 cases (8%). Syringoma constituted the commonest eccrine tumor, 12cases (48%); while trichoepithelioma was the commonest hair tumor, 3 cases (12%). The other eccrine tumors were eccrine spiradenoma, 1 case (4%); and nodular hidradenoma, 2 (8%). The other hair tumors were Trichoblastoma, 2 cases (8%); The sebaceous tumors constituted 3 cases (12%) of nevus sebaceous. Syringocystadenomapapilliferum, 1 (4%); and Cylindroma, 1 (4%), constituted the apocrine tumors.*
Conclusion: *Appendageal skin tumors are relatively uncommon. Histopathology is mandatory for the diagnosis. We did not come across any malignant tumors in our study.*
Key Words: *Appendageal skin tumor, Syringoma, Trichoepithelioma, Nodular hidradenoma, Eccrine spiradenoma, Nevus sebaceous.*

Date of Submission: 01-09-2021 Date of Acceptance: 15-09-2021

I. Introduction

Skin adnexal tumors are relatively uncommon**.** They are frequently seen in head and neck region.Most ofthemarebenignandclinicallymanifestas flesh coloured, solitary / multiple papules / nodules.Thespectrumrangesfromabenignadnexaltumorthatcanbe curedwith excision to a malignant counterpart that is locally aggressiveandhasapotentialfordistantmetastasisThese tumours originate from undifferentiated pluripotent stem cells and finally differentiate to specific tumours influenced by genetics, lack local vascularity, and the microenvironment of the epidermis and dermis[(2-4)]. They aeclassified into four groups: tumors with differentiation towards; Hair follicle, Sebaceous glands, Sweat glands, Eccrine and Apocrine. [(1)] Skin adnexal tumors pose a diagnostic challenge to both clinician as well as pathologist since similar looking nodule/papule shows a wide histological spectrum. Keeping these factors in mind, we undertook this study to determine the pattern of appendageal tumors in our patients.

II. Material And Methods:

This is a one-year Retrospective study done on all patients, who attended OPD in department of DVL, SMC, GGH, VIJAYAWADA who were diagnosed to have skin appendageal tumors and confirmed by histopathology. The histopathology specimens were routine haematoxylin and eosin sections. Following this criterion, cases were divided into follicular, sebaceous and sweat tumors.

III. Results:

Out of 62,248 patients attended the OPD, 25 cases were skin appandagealtumors, which constitute 0.04% in which 10 (40%) were males and 15 (60%) were females. The male and female ratio was 1:1.5 approximately. The most common age group affected was 31 to 40 years of total 9cases, constituting 36%, the age group distribution is given in table 1.Tumors with eccrine differentiation constituted the maximum,15 cases

(60%); followedby tumors with hair differentiation, 5 cases (20%).Syringomas constituted the commonest eccrine tumor,12 cases (48%); while trichoepithelioma was the commonest hair tumor,3cases (12%). the differentiation of the tumor types is given in table 2. The individual tumor types are given in table 3. The most common site involved in our study was head and neck (22 cases,88%) in which face was the commonestsite (17 cases,68%). The site distribution of different tumors given in table 4.

IV. Discussion:

Out of total 62,248 cases,25 cases were skin appendageal tumors (0.04%) which was on par with Kanwal Preet Kaur *et al*.%[(5)]&Abantisaha*et al* [(6)] The most common age group was 31 to 40 years which was on par with Radhika *et al* [(7).]

The male and female ratio was 1:1.5 which was on par with Pradeep S. Nair*et al*[(8)]. The most common site involved in our study was head and neck which was on par with PradeepS.Nair*et al.* & Ankit Sharma*et al* [(9)]. Sweat gland tumors constituted the largest group (60%) followed by Hair follicle tumors (20%). These observations are in concordance with that of Radhika et al.,Sharma *et al*.,Pantola*et al.* [(10)], and Gayathri *et al* [(11)].On the contrary, Kamyab-Hesari*et al.* [(12)]found sebaceous tumors to be the most common type which is unlike to most of the studies in literature. Syringoma (40%) was most common eccrinetumor followed by trichoepithelioma, a common hair tumorencoutered which was on par with Pradeep S. Nair *et al., &*on contrary with Ankit Sharma *et al*.,and Radhika *et al.*,

Syringomas was the commonest tumor seen in our study characterizedhistologically by the "tad pole" appearance, [Figure 1]. Two cases of nodular hidradenoma showed whorls of squamoid cells with eosinophilic cytoplasm and mucinous cells. [Figure 2] Eccrine spiradenoma showed small cells with dark nuclei in the periphery & large cells with pale nuclei in the centre.

Syringocystadenomapapilliferuman apocrine tumoris characterised histologically by cystic invagination with numerous papillary projections. Cylindroma was another apocrine origin tumor characterized by Multiple islands of tumor cells surrounded by hyaline sheath showing jigsaw puzzle appearance[Figure3].

Trichoepithelioma was the commonest follicular tumor seen in this study. The tumor was characterized by multiple horn cysts and islands of basophilic tumor masses with peripheral palisading of the nuclei. [Figure 4]. Trichoblastoma was another follicular tumor observed in our study characterised by Dermis showing a well circumscribed mass of epithelial cells arranged in lobules, sheets and nests with variable amount of fibromyxoid stroma. At places lobules showed formation of keratinous cysts.

The 3 cases of nevus sebaceous which are sebaceous origin tumors are characterized histologically byhyperkeratosis, acanthosis, papillomatosis of the epidermis. Numerous mature and partially mature sebaceous glands in dermis. [Figure 5]. Even though other appandagealtumors may develop in a nevus sebaceous, this was not seen in our study.

V. Conclusion

Appendageal skin tumors are relatively uncommon lesions. Theycommonly involvethe Head &Neckregion. Skin adnexal tumours, though mostly benign in nature,their excisionanddiagnosisisimportantforcosmeticpurposeand followup of malignanttransformation. HistopathologicalExaminationservesas thegoldstandard fordiagnosing skin adnexal tumours. We did not come across any malignant tumours in our study.

Table 1: Age distribution (n=25)

Age group	Number	Percentage
0-10	1	4
11-20	1	4
21-30	5	20
31-40	9	36
41-50	6	24
51-60	1	4
61-70	1	4
71-80	1	4

Table 2; Differentiation of appendageal tumors

S.NO	DIRECTION OF DIFFERENTIATION	CASES	PERCENTAGE
1	SWEAT GLAND	17	68%
2	HAIR FOLLICLE	05	20%
3	SEBACEOUS GLAND	03	12%

Table 3; Tumor types and frequency(n=25)

Appendageal tumors	**Total**	**Percentage**
Eccrine		
Syringoma	12	48
Nodular hidradenoma	2	8
Eccrine spiradenoma	1	4
Apocrine		
Syringocystadenomapapilliferum	1	4
Cylindroma	1	4
Hair		
Trichoepithelioma	3	12
Trichoblastoma	2	8
Sebaceous		
Nevus sebaceous	3	12
Total	25	100

Table 4;Site predilection

SL. NO.	**SITE**			**NO.OF CASES**	**PERCENTAGE**
1	HEAD AND NECK	FACE	FOREHEAD	2	8%
			NOSE	5	20%
			LOWER LID	10	40%
		SCALP		5	20%
2	TRUNK			2	8%
3	UPPER EXTREMITY			1	4%
	TOTAL			25	100%

Figure1: SyringomaA and B- Skin coloured papules C,D,E- 'Tadpole' appearance (H&E,40X&10X)

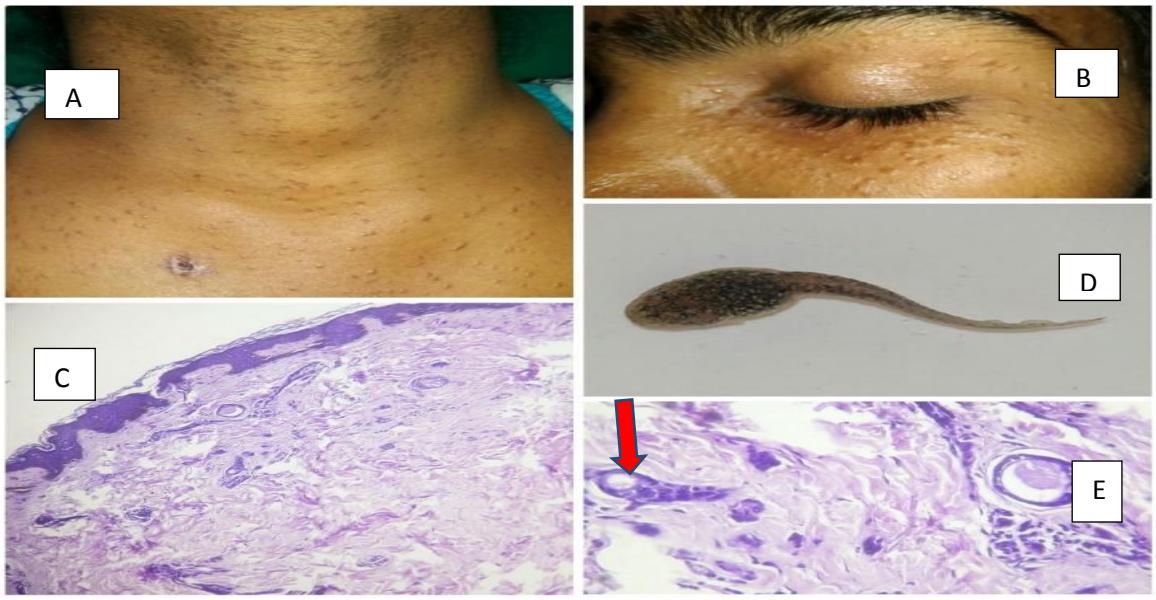


Figure 2: Nodular hidradenoma A-Solitary Nodule B- Whorls of squamoid cells(40x)

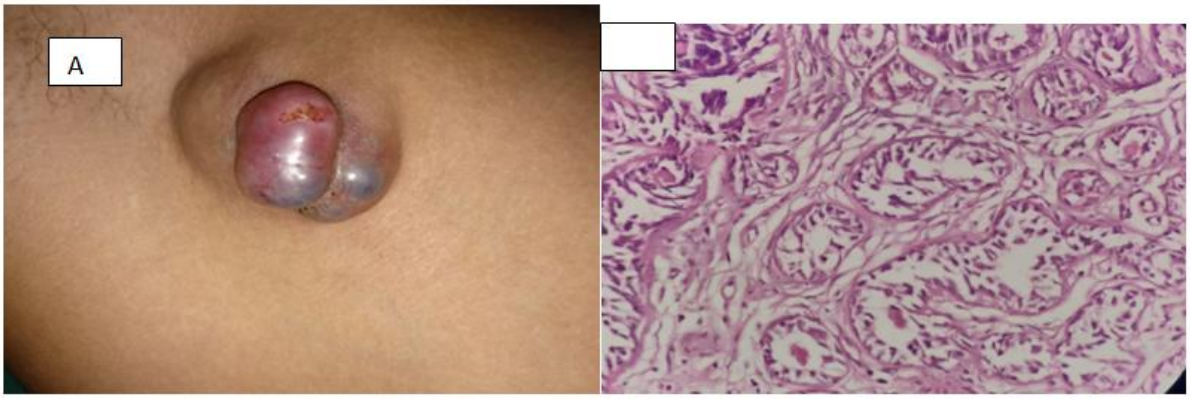


Figure 3;Cylindroma- jigsaw puzzle appearance (H&E 40X)

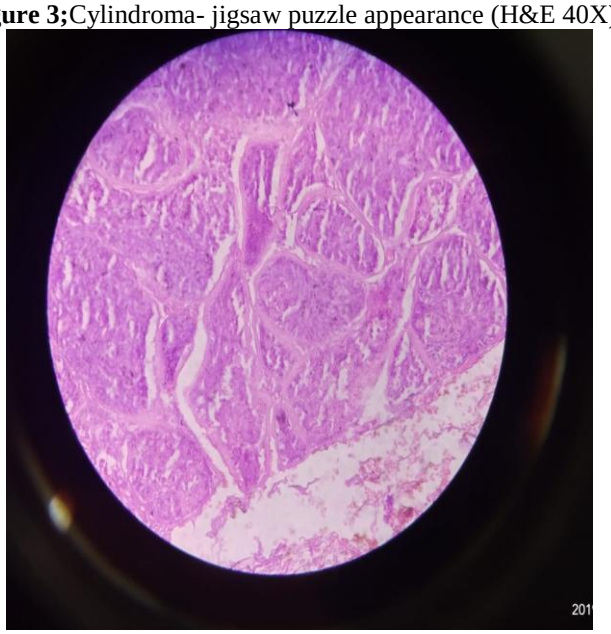


Figure 4; Trichoepithelioma A-Smooth Papules B-Horn cysts (H&E-40X)

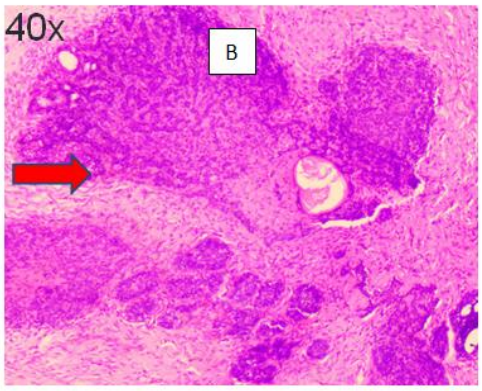
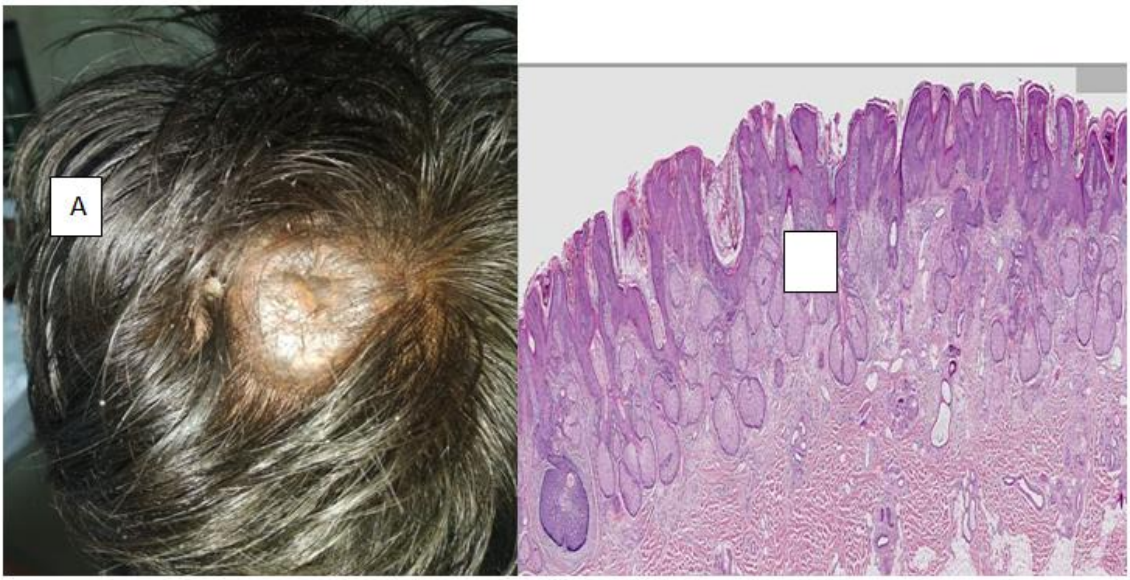


Figure 5; Nevus sebaceous A-Verrucous Growth B-H&E (10X)



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Mahalakshmi peruri, et. al. "A Clinico-Pathological Study of Appendageal Tumors of Skin at a Tertiary Care Hospital." *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*, 20(09), 2021, pp. 52-56.