 DOI: 10.18231/2455-6769.2017.0027

Spectrum of Adnexal Neoplasms - A 2 year study in a tertiary care hospital, Konaseema, Andhra Pradesh, India

Durga Eswara Anand Oruganti[1,*], Sesha Deepthi Pratti[2]

[1,2]Assistant Professor, Dept. of Pathology, Konaseema Institute of Medical Sciences & Research Foundation, Andhra Pradesh

***Corresponding Author:**
Email: anand.oruganti.007@gmail.com

Abstract

Adnexal neoplasms are a wide group of lesions and are relatively rare, classified on their line of differentiation towards hair follicle, sebaceous glands or sweat glands. Histopathology remains the gold standard for the diagnosis of these lesions. Aim is to study the spectrum of skin adnexal tumors in our institution with respect to age, sex, location, histopathology and incidence of malignant neoplasms. Ours is a retrospective analysis of histopathologically diagnosed adnexal tumors in a tertiary hospital. In a span of 2 yrs, 24 adnexal tumors were diagnosed on histopathological examination and are categorized based on WHO classification. In our study 8 (33.3%) tumors are of follicular differentiation, Sebaceous differentiation are 3 (12.5%), Apocrine differentiation are only 1 (4.2%), Eccrine differentiation are the highest in occurrence, 11 (45.8%) and 1 (4.2%) case of Paget disease of nipple. Benign adnexal neoplasms are more common than malignant.

Keywords: Adnexal neoplasms, Follicular, Sebaceous, Apocrine, Eccrine, Benign and Malignant.

Introduction

Cutaneous adnexal tumors are a diverse group of tumors that are commonly classified according to their state of appendageal differentiation- eccrine, apocrine, follicular and sebaceous.(1) Primary cutaneous neoplasm are histopathologically diverse varying from hamartomas, cysts and benign to malignant tumors. Cutaneous metastasis occurs in 10% of patients with internal carcinomas.(7) Most of the benign adnexal neoplasms present as asymptomatic papules or nodules and often difficult to diagnose clinically however anatomic location, number and distribution of lesions provide important clue. Histopathology, and immunohistochemistry helps in confirmation of the diagnosis.(6) Malignant skin adnexal tumors are rare, locally aggressive and have the potential for nodal involvement and distant metastasis with a poor clinical outcome.(5)

Materials and Method

Present study was a hospital-based retrospective study conducted in the Department of Pathology, Konaseema Institute of Medical Sciences and Research Foundation (KIMS&RF) from June 2015 to May 2017, located at Amalapuram, East Godavari District, Andhra Pradesh, India. Study is done on formalin fixed paraffin embedded tissues. Haematoxylin and Eosin stained sections were examined and confirmed with special stains where required. Correlation of age, gender prevalence and site of involvement with histopathological diagnosis were done.

Results

In the study period, 24 adnexal tumors were diagnosed on histopathological examination. 4 (16.7%) are malignant and 20 (83.3%) are benign (Table 1). All the benign tumors were excised by local excision or RFC (Radio Frequency Cautery) and Malignant lesions are operated by wide local excision followed by radiotherapy & / or chemotherapy. There were 8 (33.3%) tumors with follicular differentiation, all are benign. Tumors that show Sebaceous differentiation are 3 (12.5%), one is malignant and two are benign. Tumors that show Apocrine differentiation are only 1 (4.2%) and is benign. Tumors that show Eccrine differentiation are the highest in occurrence, 11 (45.8%) of which 2 are malignant and 9 are benign (Table 2 & 4). Recurrence was seen in one of the malignant cases that is Paget disease of nipple, which on follow-up presented as frank breast lump, on excision biopsy, it was diagnosed as Duct cell carcinoma of breast. In our study 11 (45.8%) cases occurred in the Head & Neck region followed in frequency by upper limb, 7 (29.2%). Female to male ratio is 1.6:1.

Discussion

Skin adnexal epithelial neoplasms are an assorted group of tumors that show differentiation towards pilosebaceous, eccrine or apocrine structures. Many studies have shown that a vast majority of the adnexal skin tumors are benign and if excised completely are curative.(2)

Adnexal tumors of the skin, though rare have been recognised from the later part of 19th century. The histogenesis of skin adnexal tumors are from either primary epithelial germ cells or pleuripotential cells or cells of pre-existing structure.(5) Skin adnexal tumors have a wide range of age distribution. In our study commonest age group (Table 3) is 21-40 years (10, 41.7%), followed by 41-60 years age group (8, 33.3%).

Benign tumors showed smooth borders, absence of ulcers, presence of adnexae and absence of necrosis.

Malignant tumors showed ulcers, clefts between tumour cells and stroma and necrosis.[5] The occurrence of benign tumors in our study was 83.3% and 16.7% were malignant which was in tandem with studies of Radhika et al, Ankit et al, and Samaila who reported 77.14%, 80.36%, and 88.5% benign and 29.63%, 19.64% and 11.5% malignant lesions respectively.[5] (Table 5 & 6).

Eccrine / Sweat gland tumour was the commonest adnexal neoplasms found in the present study. The complex nature of sweat gland may be responsible for this.[8] Nodular hidradenoma was the commonest eccrine tumor and the head and neck region was the preferred site of involvement. The morphological appearance was presence of solid nests with or without cystic areas filled with mucinous material (Fig. 1). The closely aggregated tumour cells display a round fusiform or polygonal biphasic cell population, one eosinophilic cell type and other clear cell type. Papillary eccrine spiradenoma, most often located on the distal extremities and microscopically show tubular structures resembling eccrine ducts, many are dilated and exhibit intraluminal papillomatosis.

Table 1

Differentiation	Follicular	Sebaceous	Apocrine	Eccrine	Paget
Malignant[4]		1		2	1
Benign[20]	8	2	1	9	

Table 2

Site	Cases
Head & Neck	11 (45.8%)
Extremities	8 (33.3%)
Trunk	5 (20.9%)

Table 3

Age	Cases
0-20 yrs	4 (16.7%)
21-40 yrs	10 (41.7%)
41-60 yrs	8 (33.3%)
61-80 yrs	2 (8.3%)

Table 4

Differentiation	Type of Tumors
Follicular Differentiation[8]	Pilomatricoma[4] Trichoepithelioma[1] Trichoblastoma[1] Proliferating Trichilemmal Cyst[1] Pilar Sheath Acanthoma[1]
Sebaceous Differentiation[3]	Sebaceoma[2] Sebaceous Carcinoma[1]
Apocrine Differentiation[1]	Apocrine Hydrocystoma[1]
Eccrine Differentiation[11]	Nodular Hidradenoma[8] Papillary Eccrine Adenoma[1] Eccrine Adenocarcinoma[1] Malignant Nodular Hidradenoma[1]
	Paget Disease of Nipple[1]

Table 5

Differentiation	Our study	Ramya Gandhi et al[7]	S.Sri Gayatri et al[1]	Muktanjalee Deka et al[3]	Radhika et al[10]	Shubha P Bhat et al[9]
Study Period	2yrs	6yrs	3yrs	2yrs	11yrs	3yrs
No. of cases	24	20	29	23	35	40
Follicular	33.3%	30%	48%	43.5%	31.4%	25%
Sebaceous	12.5%	10%		17.4%	20%	10%
Apocrine	54.2%	-	52%	8.7%	48.6%	10%
Eccrine		60%		30.4%		55%

Table 6

Study	Benign	Malignant	Total cases and study period
Our study	20 (83.3%)	04 (16.7%)	24, 2yrs
Ramya Gandhi et al[7]	17 (85%)	03 (15%)	20, 6yrs
S. Sri Gayatri et al[1]	27 (93.1%)	02 (6.9%)	29, 3yrs
Muktanjalee Deka et al[3]	17 (73.9%)	06 (26.1%)	23, 2yrs
Radhika et al[10]	27 (77.1%)	08 (22.9%)	35, 11yrs
Shubha P Bhat et al[9]	21 (55%)	19 (45%)	40, 3yrs

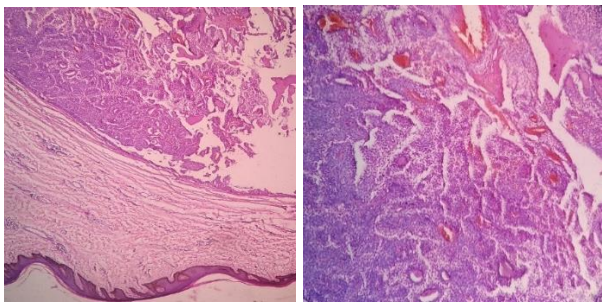

Fig. 1: Nodular Hidradenoma (A-4x, B-10x)

Among apocrine adnexal neoplasms, in our study we received only one lesion i.e. apocrine hydrocystoma. On histopathology dermis shows one / several large cystic spaces into which papillary projections often extend (Fig. 2). The inner surface of the cyst and papillary projections are lined by a row of columnar secretory cells of variable height showing decapitation secretion. Peripheral to the layer of secretory cells are elongated myoepithelial cells, their long axes running parallel to the cyst wall.[11]

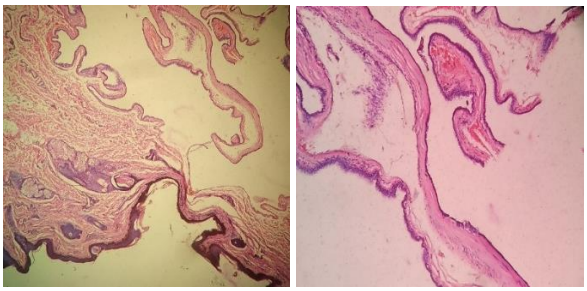

Fig. 2: Apocrine Hidrocystoma (A-4x, B-10x)

Among the follicular adnexal neoplasms commonest tumour was pilomatricoma and most of the cases were distributed around head neck region and presented as solitary nodule which is in concordance with other studies. The tumour was characterized by biphasic pattern of ghost cells surrounded by basaloid cells with foreign body granulomatous reaction (Fig. 3). The keratinized ghost cells have central unstained area represent the lost nuclei. Proliferating trichilemmal tumor predilection for the scalp and base of neck of women. Microscopically, pilar tumors have a predominantly solid appearance and generally pushing borders. Interlacing bands of squamous epithelium exhibiting trichilemma-type keratinization are characteristic.

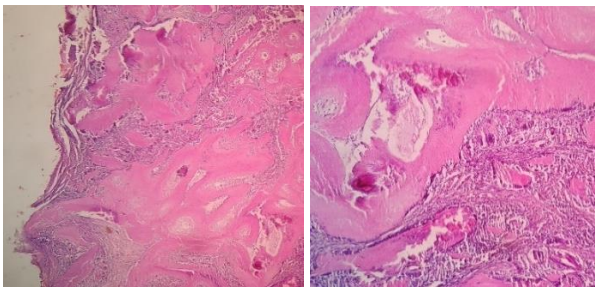

Fig. 3: Pilomatricoma (A-4x, B-10x)

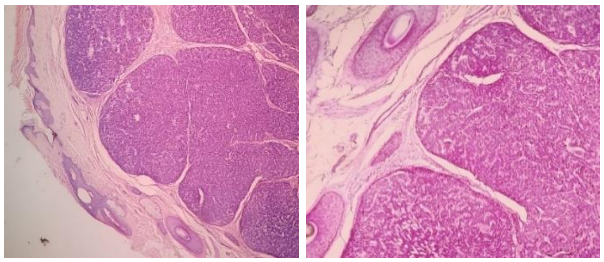

Fig. 4: Rippled pattern Sebaceoma (A-4x, B-10x)

In sebaceous adnexal neoplasms (3/24), Sebaceoma is the most common (2/3). In them one is a rare variant sebaceoma, Rippled pattern sebaceoma (Fig. 4). In this cells exhibit a unique arrangement of small, monomorphous, cigar-shaped basaloid cells in parallel rows resembling verocay bodies.

Malignant adnexal neoplasms are equally distributed among males and females in our study. Among malignant 2 are of eccrine origin (Fig. 5), 1 is of sebaceous origin and one is Paget's disease of nipple (Table 6). Paget disease of nipple was diagnosed in a 41yrs female. On further follow-up modified radical mastectomy was done and it was diagnosed as a case of Duct cell carcinoma of breast. In Vijayan P et al[2] study done for a period of 4yrs, encountered 60 cases in which 17 (35.3%) cases are malignant, in our study only 4 (16.7%) cases are malignant. In Mukund Dhokiya et al[4] study done for a period of 4 years, received 50 cases in which only one (2%) case is malignant.

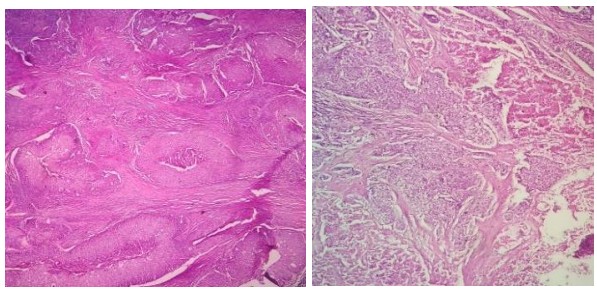

Fig. 5: Malignant Hidroadenoma (A-4x, B-10x)

Conclusion

Adnexal neoplasms have been correctly termed by Cotton a "troublesome tumors" due to the difficulty in classifying them on clinical basis alone[3]. Histopathological examination is the best means for the

diagnosis of these lesions. In our study period of 2 years we received 24 adnexal neoplasms. The incidence of adnexal neoplasms is relatively low when compared to the other tumors. Out of the 24 tumors, 4 cases were only malignant with equal male to female distribution. In 20 benign adnexal neoplasms, 11 occurred in females and 9 cases in males. Incidence of adnexal neoplasms is more in the head & neck region. Tumors with Eccrine differentiation are more common.

References

1. "An analysis of skin appendageal tumors in South India." S. Sri Gayathri, Ezhilvizhi Alavandar, S. Ashok Kumar. Journal of Evolution of Medical and Dental Sciences/Volume 1/Issue 6/December-2012 Page-907-912.
2. "Spectrum of malignant skin adnexal tumors – a single institution study of 17 cases with clinicopathological correlation." Poornima Vijayan, Ramadas Nayak, Laila M. Ilias, Anupama Ponniah. International Journal of Research in Medical Sciences Int J Res Med Sci. 2015 Aug;3(8):1889-1894.
3. "Histopathology of Skin Adnexal Tumors - A Two Year Retrospective Study at a Tertiary Care Hospital." Muktanjalee Deka, Sukrita Bhattacharjee. International Journal of Scientific Study | December 2016 | Vol 4 | Issue 9. Pg 61-65.
4. "Histopathology of Dermal Adnexal Tumors – A Four Years Study." Mukund Dhokiya, Dr. Hemlata Talwelkar, Dr. Sanjay Talwelkar. International Journal of Science and Research (IJSR), Volume 5 Issue 11, November 2016. Pg 352-355.
5. "A 5 Year Histopathological Study of Skin Adnexal Tumors at a Tertiary Care Hospital." Dr. Vani. D, Dr. Ashwini. N.S, Dr. Sandhya. M, Dr. T.R. Dayananda, Dr. Bharathi. M. IOSR Journal of Dental and Medical Sciences (IOSR-JDMS), Volume 14, Issue 4 Ver. VII (Apr. 2015), PP 01-05.
6. "Histopathological Study of Skin Adnexal Tumors—Institutional Study in South India." Ankit Sharma, Deepak G. Paricharak, Jitendra Singh Nigam, Shivani Rewri, Priyanka Bhatia Soni, Anita Omhare, and Preethi Sekar. Hindawi Publishing Corporation Journal of Skin Cancer Volume 2014, Article ID 543756, 4 pages.
7. "A Morphologic Study of Cutaneous Adnexal Tumors." Ramya Gandhi, Sowmya Srinivasan, National Journal of Laboratory Medicine. 2016 Oct, Vol-5(4): PO08-PO11.
8. "Cutaneous Adnexal Tumors: A Clinicopathological descriptive study of 70 cases." Chayanika Pantola, Sanjay Kala, Asha Agarwal, Sonal Amit and Saurabh Pantola. World Journal of Pathology Volume 6.
9. "Clinicopathological study of cutaneous adnexal tumors in a tertiary hospital of South India." Shubha P Bhat, Kishan Prasad HL, Vadisha Srinivas Bhat, Jayaprakash Shetty K. Indian Journal of Pathology and Oncology, October-December 2016;3(4);649-652.
10. "A study of biopsy confirmed skin adnexal tumors: experience at a tertiary care teaching hospital." K. Radhika, B.V. Phaneendra, N. Rukmangadha, M.K. Reddy. J Clin Sci Res 2013;2:132-8.