Original Research Article

An analysis of skin appendageal tumors: 10 year study

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Abstract

Introduction: Skin appendageal tumors are wide spectrum of disorders that differentiate towards one or more adnexal structures. **Objective**: To determine the prevalence of skin appengeal tumours**. Materials and methods**: This is a record based cross sectional study from the Department of pathology, Dr SMCSI Medical College between 1st January 2004 to 1st November 2014 who were diagnosed with skin tumours by histopathology and these cases were reviewed classified and analysed according to the patient's age, gender, and localization. **Results**: 166 cases were studied during this study period, males 68 and females 98. Mean age of presentation in this study was 34 years. Tumours with follicular differentiation constituted the maximum, 81 cases (48.8%), followed by eccrine differentiation constituting 22 cases (13.25%): tumours with apocrine differentiation 21cases (12.66%) and sebaceous differentiation 9 cases (5.4%). One case each of sebaceous adenoma and sebaceous carcinoma were the only malignant tumours. **Conclusio**n: Skin adnexal tumours are relatively uncommon and the incidence of benign skin adnexal tumours are more common compared to the malignant ones.

Keywords: Skin appendageal tumors, Benign, Malignant, Histopathology

Introduction

Skin appendageal tumours of the skin are really complex and have confusing nomenclature. Different types show marked variation in histological appearance and there is significant morphological overlap between the different types [1]. Even though most of the adnexal tumors are benign lesions, malignant variety also occur.

There are many inherited syndromes in which cutaneous adnexal tumors are a feature, and failure to recognize these associations may have serious implications [1]. Most of the benign present as a symptomatic papules or nodules and often troublesome to diagnose clinically however anatomic location, number and distribution of lesions provide important clue [2]. Few clinicopathological studies are available on adnexal tumours. The clinical history is essential for diagnosing skin appendageal tumours on biopsy [3].

Appendageal tumors are clinically non-descript, flesh colored, solitary or multiple papules or nodule. Some of them found to have penchant for certain parts of body like eccrine poroma which is most common is lower limb, but can occur in other parts also [4, 5]. No known provoking conjucture is evident in the vast majority of appendgael tumours. There are some cases in which the reason is an autosomal dominant mutation in a tumour suppressor gene [6,7]. Adnexal tumours arising from the skin are usually missed clinically and often confirmed by histopathology [7,8]. They are however confirmed by histopathology, and immuno histo-chemistry may help in confirming the diagnosis. This study is done to determine the prevalence of skin appendageal tumours

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Materials and Methods

Place and type of study: The present study includes the cases from 1st January 2004 to 1st November 2014. The study was done in the Department of pathology from Dr SMCSI Medical College. This is a record based cross sectional study.

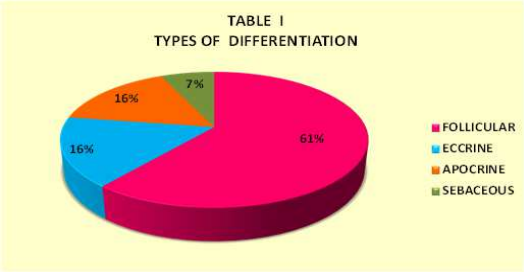
Sampling method, collection and inclusion criteria: The clinic pathological data was taken from the medical record department in Dr SMCSI Medical College for the given period. The cases which are included were

diagnosed with skin tumours by histopathology and these cases were reviewed classified and analyzed according to the patient's age, gender, and localization and from which department the specimen was received.

Results

166 cases were studied during this study period. Among them, males were 68 (41%) and females were 98 (58%). Mean age of presentation in this study was 34 years.

Tumours with follicular differentiation constituted the maximum, 81 cases (48.8%), followed by eccrine differentiation constituting 22 cases (13.25%): tumours with apocrine differentiation 21 cases (12.66%) and sebaceous differentiation 9 cases (5.4%). (Table I)



Pilomatricoma constituted the commonest follicular tumour, 45 cases (57%). Other cases in the follicular differentiation proliferating trichilemmal tumour 25 cases (33%), trichoepithelioma 4 cases (5%), trichofolliculoma 2 cases (3%), trichoblastoma and tricholemmoma one case each. There was one malignant proliferating trichilemmal tumour also. It was seen in male of age 68 years presented as a scalp swelling. (Table II)

Eccrine poroma was the commonest in eccrine differentiation 7 cases (32%), followed by nodular hidradenoma 6 cases (27%), chondroid syringoma 5 cases (23%) and eccrine spiradenoma 4 cases (18%). (Table III)

Table- II: Follicular Differentiation		
Types	**Number of cases**	**Percentage**
Pilomatricoma	45	57 %
Proliferating trichelimmeal cyst	25	33%
Trichoepithelioma	4	5%
Trichofolloiculoma	2	3%
Trichoblastoma	1	1%
Tricholemmoma	1	1%
Malignant Proliferating Trichelimmeal cyst	1	1%

Among tumours with apocrine differentiation, syringe cyst adenoma papilliferum were the commonest comprising 8 cases (40%) The other tumours were hidradenoma papilliferum 5 cases (30%), cylindroma (20%), a case of apocrine hidrocystoma (5%) and tubular apocrine adenoma (5%) one each. (Table IV)

Table- III: Eccrine Differentiation		
Types	**Number of cases**	**Percentage**
Eccrine Poroma	7	32%
Nodular Hidradenoma	6	27%
Choroid Syringoma	5	23%
Eccrine Spiradenoma	4	18%

Table-IV: Apocrine Differentiation		
Types	Number of cases	Percentage
SyringocystadenomaPappiliferum	8	40%
HidroadenomaPappiliferum	6	30%
Cylindroma	4	20%
Apocrine Hidrocystoma	1	5%
Tubular Apocrine Adenoma	1	5%

Table-V: Sebaceous Differentiation		
Types	Number of cases	Types
Nevus Sebaceous	7	78%
Sebaceous Adenoma	1	11%
Sebaceous Carcinoma	1	11%

In sebaceous differentiation, we got 7 cases (78%) of nevusse baceous, one case each of sebaceous adenoma and sebaceous carcinoma (11%). (Table V)

There was one interesting case of giant Hidradenoma papilliferum which presented at an unusual location in the lower extremity for a 68-year-old male. This was clinically diagnosed as infected papilloma (ms 5.5 X 4 X 4cm). (Figure:1)

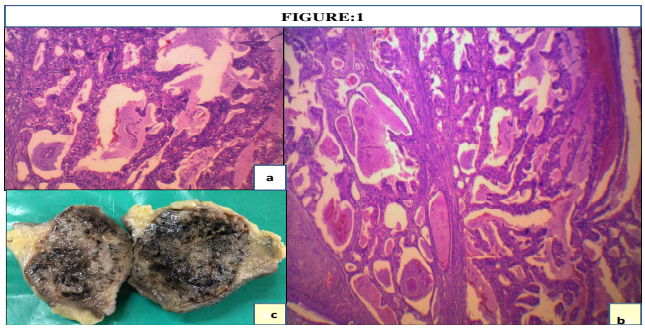


Fig 1: Hidradenoma pappiliferum a) (H and E, ×100)b) (H and E, ×400) Numerous papillary projections c) Cut surface of the lower extremity swelling showing a grey white to grey brown well circumscribed lesion

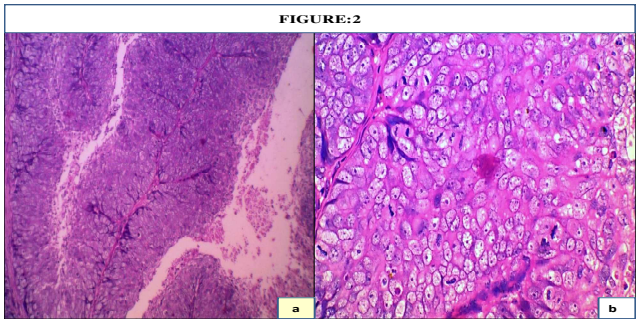


Fig 2: Sebaceous carcinoma. a) (H and E, ×100)b) (H and E, ×400) lesion showing marked atypia

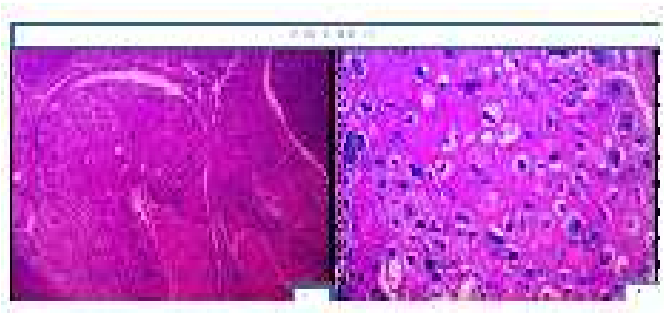


Fig 3: Malignant poliferating trichilemmal tumour a) (H and E, ×100) b) (H and E, ×400)

Among the 166 cases, there were only two malignant cases; one case each of sebaceous carcinoma (Figure: 2) and malignant proliferating trichilemmal tumours (Figure: 3) Both of which were diagnosed clinically as benign lesions lipoma and sebaceous cyst respectively

Discussion

Skin adnexal tumours are comparatively rare tumors comprising 0.5% of all the biopsies received in our institution. Most skin adnexal tumours are not that common enough for the histopathologist to get a quick

familiarity with them [10]. In a similar descriptive study in Parguay, they received 1.4% of skin adnexal tumours[11]. In a study in Nigeria by Samaila et al[9], they received 0.9% of skin adexal tumours. Another descriptive study by Kaur et al [12] in north Indiaalso received 0.3% of skin adnexal tumours. Most of the tumors in this study were benign 98.8% while malignant was only 1.2%. Others studiesin which benign tumour predominance are Samaila et al[9], (88.5%), Radhika et al[3] (77.14%), Saha et al[13] (100%) Sharma et al [14] (80.36%), Rajalakshmi et al [15] (90.48%), El Ochi et al [16](97.7%), Nair [17] (100%) and Kaur et al [12]. Skin appendageal tumours are very difficult to diagnose. Traditional criteria of cytological and nuclear atypia alone do not make a diagnosis of a tumor malignant [14]. Bernard Ackerman first elaborated the significance of silhouettes/ architectural attributes which can make it easier in differentiating between benign and malignant tumours.

The features of benign tumors are symmetrical, vertically orientated with V-shape with uniform collection of epithelial cells, dense fibrotic stromal reactions and absence of necrosis, atypia, and mitosis. Whereas the malign tumours show asymmetry, horizontal orientation of tumor, irregular arrangement of cells with infiltration, necrosis, atypia, mitosis, and diminished sclerotic stroma. Therefore, it is very important to examine the slide under scanner view to evaluate the configuration of adnexal tumours to differentiate benign and malignant ones. In this study we have used these criteria [14, 18, 19, 20]. Males were 68 (41%) and females were 98 (58%). Radhikaet al, Hesari et al, Saha et al and Nair also found as light increase in female preponderance [3, 11, 13, 17]. Mean age of presentation in this study was 34 years. Radhika et al[3], Samaila et al [9], Saha et al [13], Rajalakshmi et al [15], El Ochi et al [16] also observed the same mean age. But Sharmaet al [14] got 40-60 years and Nair [17] got 10 -20 years. In our study tumours with follicular differentiation constituted the maximum, 81 cases (48.8%), followed by eccrine differentiation constituting 22 cases (13.25%) : tumours with apocrine differentiation 21 cases (12.66%) and sebaceous differentiation 9 cases (5.4%). Similar observation were seenin study of Kaur et al [12] and El Ochi et al [16] while Sharma et al[14] Nair [17], Vaishnav et al [21], Reddy et al [22] Gayathri et al [23] and Pujani et al [24] found sweat gland differentiation to be most common followed by follicular and seb-aceous differentiation. Pilomatricoma constituted the commonest tumour in benign nature. Similar observation was found in Rajalekshmi et al[15], El Ochi et al[16] and Kaur et al [12]. While Samaila et al [9] had got eccrine acrospiroma, Radhika et al[3] found nodular hideradenoma, Sharma et al found clear cell hideradenoma and Saha et al[13] and Nair [17] found syringoma as most common one. We got an interesting case of a man presented with a lower extremity swelling and was diagnosed as giant ectopic Hidradenoma papilliferum. It usually occurs in women in the perineal and perianal region [1,25,26]. In males, the most common site is perianal region. It is usually a few millimeters in size but in our case it was measuring 5.5 x 4.4 cm. Vang R also reported an ectopic hidradenoma pappileferum in a male in the lower extremity. In contradiction toanogenital hidradenoma papilliferum, nearly one half of the patients with ectopic hidradenoma papilliferum are men [27].

Conclusion

Skin appendageal tumoursare relatively uncommon. Clinical diagnosis of appendageal tumors is immensely troublesome because most of the tumors have similar clinical presentation and most of their symptoms are non specific. Benign tumours are more common compared to the malignant ones and malignancy is often hard to diagnose clinically. Histopathological examination becomes essential in diagnosis and it is the gold standard in the diagnosis of skin appendageal tumours.

What is new in this study?

A case of giant ectopic hidradenoma papilliferum was diagnosed in lower extremity. Ectopic sites of hidradenoma papilliferum are usually eyelid, nasal area, and breast. In lower extremity it has been the second case reported so far.

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