

## A study on incidence of Epidermal Tumors

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### Abstract:

**Introduction:** A skin tumor encompasses a vast area of pathology, because skin is a heterogeneous organ with many varied elements having ectodermal and mesodermal origins. The surface epidermis tumors are the most common group of neoplasms. The most of the tumors appears as sebaceous cysts but FNAC and Histopathology examination is the confirmatory. The present study confirmed many tumors.

**Methods:** The total 1332 tumors which are registered for Histo pathology examination are taken as a Study group. The study is retrospective and prospective with regard to skin tumors. The skin tumors collected over a period of 4 years from the Department of Pathology, S.V. Medical College, Tirupati and diagnosed. The paraffin embedded present and previous blocks collected and cut to 5 micron sections and stained routinely with haematoxylin and eosin and examined microscopically for establishing the precise nature of lesions.

**Results :** - About 1332 were the number of total tumors recorded in the Department of Pathology, out of these number of skin tumors were 114, giving incidence of 8.6%. Among the total skin tumors of 114, the epidermal tumors are 80 and incidence rate is 68%. The surface epidermis tumors were the predominant group with incidence of 69% followed by adnexal tumors with 26% incidence and the least incidence shown by melanogenic tumors of 14% incidence. Among the skin tumors recorded with the study are majority of the lesions occurred between the 5<sup>th</sup>, 6<sup>th</sup>, and 4<sup>th</sup> decades giving incidence of 24.94%, 19.78% and 18.92% with peak age incidence between 41-50 years. Benign skin tumors displayed peak incidence in the fourth decade.

**Conclusion:** - out of a total of 1332 the skin tumors are 114(8.6%) were skin tumors accounting for 114 cases (99.56%) and secondary deposits accounted for only 1 case (0.86%) and unclassified 1 case 0.86%.

**Keywords:** - skin tumors- Epidermal tumors-Age, sex and site incidence.

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### I. Introduction

The Skin appendageal tumors encompass a wide variety of tumors clinically presenting as papules and nodules with histological distinct features. Benign tumors of epidermal origin are among the most common lesions arising from the skin. As the skin is the heterogeneous organ it produces many epithelial tumors. The scientific inquiry has revealed skin as a complex organ in which precisely regulated cellular interactions govern many crucial responses to our environment. In spite of growing public awareness of harmful effects of sun exposure, incidence of Skin tumors continues to rise. Skin tumors are associated with substantial morbidity, disfigurement and their treatment is costly. Early diagnosis can reduce morbidity and cost. As per the W.H.O classification epithelial tumors and tumor like lesions are 1. Basal Cell Carcinoma with sub types of superficial multicentric type, Morphea type, Fibroepithelial. 2 Squamous cell Carcinoma with sub types of Adenoid squamous cell carcinoma and spindle cell type carcinoma 3 Metatypical carcinoma and Inverted follicular Keratosis and other types are Pagets disease and undifferentiated Carcinoma. Benign epidermal tumors are localised and systematised and shows picture of benign papilloma, hyperkeratosis, papillomatosis and acanthosis with elongation of rete ridges. Seborrheic Keratosis commonly occurs over the trunk, face and extremities and usually occurs during middle age. Gross appearance shows slightly raised looks as if they are stuck to the surface of skin and consistency is soft and friable. Histology shows hyperkeratosis, acanthosis and papillomatosis. Bowen's disease is a solitary lesion and occur on exposed or unexposed parts of the body and manifests as a slowly embracing erythematous patch of sharp with irregular outline, histologically epidermis shows acanthosis with elongation and thickening of the rete ridges. Many cells appear highly atypical showing large hyperchromatic nuclei and horny layer usually thickened and consists largely of parakeratotic cells with atypical, hyperchromatic nuclei.

Basal Cell Carcinoma is a locally invasive, slowly spreading skin tumor with extremely variable clinical presentation, considered to have origin from the folliculo sebaceous-apocrine germ also known as trichoblast. BCC also called Basilioma, Rodent Ulcer, Basal Cell Epithelioma. Overexposure to sun leads to the formation of thymine dimers a form of DNA damage, cumulative DNA damage leading to mutations. Apart from the mutagenesis, over exposure sunlight depresses the local immune system and for developing new tumor

cells. Biological behaviour and histology and conflicting versions on histology whether arising from basal cells of epidermis appendages or displaced embryonic primordial of epidermal appendages. Different types of Basal cell carcinoma are classified. Undifferentiated type are called as solid type and characterised by strands of irregular shaped masses of tumor cells within the dermis and differentiated type show a slight degree of differentiation on towards the Cutaneous appendages. Keratotic type shows horn cyst filled with lamellar keratin and bordered by flattened parakeratotic cells with tumor islands. In Adenoid type cells arranged in intertwining strands and radially around islands of connective tissue. Cystic Type shows one or several cystic spaces within the tumor lobules. Morphologically the Epidermal tumors look similar and the great majority are not diagnosed as such until after excision and pathological study.

## II. Methods

The material presented here consists of skin tumors collected over a period of four year (1994-1997) from the Department of Pathology S.V. Medical College, Tirupati. The tumors which were excised and sent for the Histopathology examination are taken for the study and examined thoroughly with Histopathology. About 1332 tumors of both benign and malignant tumors were examined. Representative sections were given and fixed in 10% formalin solution and studied with histopathological examination. Tissues thus selected were subjected to automatic processing: blocks were made out of 6-8 microns and stained with haematoxylin, Eosin and Special stains were employed- PAS Stain, Alcian Blue –Stain and Lipid Stain. The bits are subjected for Histopathology examination. The grossing and automatic processing, block making and reporting was done in the Dept of Pathology, S.V. Medical College, Tirupati. The results were statistically analysed.

## III. Results

The results are shown in various tables and discussed.

**Table 1: Ratio of Benign and Malignant Tumors**

Total No of Tumors among Surgical Pathology speciality	Total number of skin tumors	% of skin tumors among general	Average Incidence of Skin tumors per year
1332	114	8.6	29

**Table 2: Incidence of Epidermal Tumors**

Total Skin Tumors	Epidermal Tumors	Incidence
114	80	68%

**Table 3: Percentage of Benign and Malignant Tumors**

Total Epidermal Tumors	Benign Tumors	% of Benign Tumors	Malignant Tumors	% of Malignant Tumors
80	25	21.5	54	46.4

**Table 4: Incidence of Various Epidermal Skin Tumors**

Type of Tumor IV	No of Epidermal Tumors	Percentage of Specific Category%
Squamous papilloma	19	16.34%
Seborrheic Keratosis	6	5.16%
Bowens disease	1	86%
Squamous Cell Carcinoma	41	35.26%
Basal cell Carcinoma	13	11.18%

**Table 5: Age Incidence of Individual Skin Tumors**

Tumors of Surface Epidermis	Total	0-10 %	11-20 (%)	21-30 (%)	31-40 (%)	41-50 (%)	51-60 (%)	61-70 (%)	71-80 (%)
Squamous Papillomas	19	-	2 (1.72)	7 (5.82)	8 (6.88)	1 (0.86)	1 (0.86)	-	-
Seborrheic Keratosis	6	-	-	1 (0.86)	1 (0.86)	1 (0.86)	2 (1.72)	1 (0.86)	-
Bowens disease	1	-	-	5 (4.30)	-	1 (0.86)	-	-	-
Squamous cell Carcinoma	41	-	-	-	4 (3.44)	15 (12.90)	11 (9.46)	6 (5.16)	-
Basal Cell Carcinoma	11	-	-	2 (1.72)	2 (1.72)	1 (0.86)	3 (2.58)	3 (2.58)	2 (1.76)

**Table 6:** Male and Female ratio of epidermal tumors

Type of the tumour	Total	Sex		Male : Female
		Male	Female	Ration
<b>Tumors of surface epidermis</b>				
1.Squamous papillomas	19	14	5	2.9 :1
2. Seboric Keratosis	6	4	2	2:1
3.Bowens disease	1	1	0	---
4.Squamous cell carcinoma	41	32	9	3.6:1
5.Basal cell carcinoma	13	5	8	1:1.6

**Table 7:** Incidence of Anatomical site of epidermal tumors

Anatomical sites	Tumors of surface epidermis	Tumors of epidermal appendages	Tumors of Melanogenic System
Head and Neck			
Head	2	1	-
Face	14	9	4
Neck	-	-	-
Trunk			
Chest	1		
Back	-	-	-
Abdomen	1		
Pelvis	-		
Lower extremity			
Thigh& Buttock	4	1	2
Leg	6	-	-
Foot	43	-	5
Upper Extremity			
Axilla	2	1	-
Arm	4	-	-
Fore arm	2	4	7
Unspecified	79	16	18

#### IV. Discussion

About 1332 are the number of total tumors recorded in the Department of Pathology for a period of 4 years. Out of these No of skin tumors are 114 giving the incidence of 8.6% and average incidence of 29 per year.(Table 1) Among the total skin tumors of 114, the epidermal tumors are 80 with incidence of 68%. The epidermal tumors are 80 with incidence of 68% among the total skin tumors.(Table 2) Among the Epidermal tumors the benign tumors in study group are 25 with an incidence of 21.5% and Malignant tumors are 54 with incidence of 46.44%.(Table 3) Among the surface epidermal Skin tumors the Benign: Malignant tumors are 1: 2.15.Hence the significance of Diagnosing epidermal tumors is more valuable .The present study Squamous papilloma accounts to 16.34% Seborrheic Keratosis Accounts 5.16% ,Bowens disease accounts .86% Squamous cell carcinoma accounts 35.26% Basal cell Carcinoma accounts 11.185 among the study group.(Table 4) The present study 19 Squamous papilloma occurred in 4 th decade with 8% incidence. Seborrhaic Keratosis showed highest incidence in 6 th decade. The Malignant tumors squamous cell carcinoma showing target group of tumor with peak incidence in 5 th decade and basal cell carcinoma the peak age incidence was in the 6 th decade. (Table 5) The present study revealed Squamous cell carcinoma ,Squamous Papilloma are common in male and male and female ratio being 3.6:1, 29:1 respectively. (Table 6)The present study also revealed most common site for the epidermal skin tumors is foot followed by face. (Table 7)Skin tumors have been recognised from the later part of the 19<sup>th</sup> century. Benign Adnexal tumors occurred much more commonly than the malignant ones. The incidence of patients with skin tumors reporting to the Department of pathology after excision for the Histo Pathology examination which is Confirmatory.

#### V. Conclusion

The Epidermal tumors usually benign, but rarely malignancy. They are usually missed clinically and often confirmed by histo pathology. Immuno histo chemistry may help in confirmation of the Diagnosis. The surface Epidermis tumors were the most common group of neoplasms. out of a total of 1332 samples the skin tumors registered are 114 (8.6%) ,among them benign tumors in the present study are 25 with incidence of 21.5%, malignant tumors are 54 with an incidence of 46.4% and second deposits accounted for only one case(0.8%).Gold standard rule of Diagnosing the tumors are biopsy or Excision of the tumors and Histopathology examination .Before the conclusion there is still a need for the further research.

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