



HISTOPATHOLOGICAL SPECTRUM OF SKIN LESIONS: AT A TERTIARY CARE CENTER

Dr Nuzhat Ayesha	Junior resident II, Department of Pathology, Dr Vitthalrao Vikhe Patil Foundation's Medical College, Ahmednagar, Maharashtra, India. 414001.
Dr B.B. Shinde*	Professor, Department of Pathology, Dr Vitthalrao Vikhe Patil Foundation's Medical College, Ahmednagar, Maharashtra, India. 414001.*Corresponding Author
Dr Sadhana H. Khaparde	Head of the department and Professor, Department of Pathology, Dr Vitthalrao Vikhe Patil Foundation's Medical College, Ahmednagar, Maharashtra, India. 414001.
Dr Sanjay D. Deshmukh	Professor, Department of pathology, Dr Vitthalrao Vikhe Patil Foundation's Medical College, Ahmednagar, Maharashtra, India. 414001.

ABSTRACT **Introduction:** Skin covers whole body and it is a largest sensory organ thus it involves large number of non-neoplastic and neoplastic lesions. Frequency of dermatological lesions vary with age, sex, environments and many other factors. **Objective:** To analyse the histopathological variants of skin lesions in different age groups, sex and site wise distributions. **Materials and methods:** A retrospective study was carried out over the period of two years. Total 100 skin biopsies and specimens received at pathology department were studied. **Results:** In this study majority of patients belongs to 51 to 60 years age, with male preponderance i.e. 52% males and 48% females, ratio of male: female was 1.08:1. The most common lesion was squamous cell carcinoma from group VI. **Conclusion:** Skin diseases are heterogeneous and having wide variations according to age, sex, country, race, site of lesion, etc. Histopathology plays an important role in diagnosing the skin diseases.

KEYWORDS : Histopathology, Skin lesions, squamous cell carcinoma.

Introduction:

Dermatological lesions vary country to country and with different age, sex, literacy status, economy, race, social customs, occupation, habits and associated systemic disorders.[1] Skin is a largest integumentary organ. Skin (integument) together with its accessory organs (hair, nails and glands) constitutes integumentary system.[2]

Skin diseases are one of the important cause of morbidity in India. Histopathology plays a gold standard role in the diagnosis of various skin diseases.[3] Many diseases can be rule out by proper history and clinical examinations, some of them needs further evaluation by additional diagnostic procedures such as potassium hydroxide preparation for demonstration of fungal elements, Tzanck smear, examination under wood's lamp, histopathological examinations of biopsies and skin excision specimens.[4]

Objective:

- 1) To analyse the histopathological variants of skin lesions in different age groups, sex and site wise distributions.
- 2) To classify skin lesions according to Lever's classification.

Materials and method:

A retrospective study was carried out on 100 skin biopsies and specimens received over the period of two years i.e. from 1st August 2017 to 31st July 2019. It is a descriptive type of study.

All skin biopsies and specimens received at pathology department were studied. Clinical history and relevant data were collected. Tissue under process of fixing by 10% formalin for 24 hours. Then sent for paraffin embedding, block making, cutting, slides were prepared and stained under hematoxylin and eosin stains and few special stains such as Ziehl-Neelsen (ZN) stain and other stains were used when required.

After the histopathological diagnosis further they were classified as per Lever's classification.

Inclusion criteria:

All skin biopsies and specimens received at histopathology section.

Exclusion criteria:

Inadequate biopsies.

Results:

Males were more commonly affected than females. Males were 52% and females were 48%. Male to female, ratio was 1.08: 1. Among the males older decades showed more malignant lesions, commonest lesion involving skin was squamous cell carcinoma commonest site were face and hands.

According to Lever's classification: Skin diseases were classified into eight groups according to their locations:[5]

- I: Disorders mostly limited to the epidermis and stratum corneum.
- II: Localized superficial epidermal or melanocytic proliferations.
- III: Disorders of the superficial cutaneous reactive unit.
- IV: Acantholytic, vesicular, and pustular disorders.
- V: Perivascular, diffuse, and granulomatous infiltrates of the reticular dermis.
- VI: Tumors and cysts of the dermis and subcutis.
- VII: Inflammatory and other benign disorders of the skin appendages.
- VIII: Disorders of subcutis.

In this study maximum number of skin lesions were from group VI i.e. Tumors and cyst of dermis and subcutis. Most common lesion was well differentiated squamous cell carcinoma from group VI i.e. 14% followed by basal cell carcinoma from group II i.e. 7% and than borderline tuberculoid leprosy from group V i.e. 6%. Commonest areas were face and hands.

Table [1] Distribution of all skin lesions according to age:

Age	Cases
1-10	2%
11-20	4%
21-30	6%
31-40	15%
41-50	22%
51-60	35%
61-70	14%
>70	2%

Table [2] Categorisation of skin diseases into VIII groups (Gp):

Gp	Diseases	Number	Gp	Diseases	Number
I	Corn	4	V	Granulomatous Lesions	5

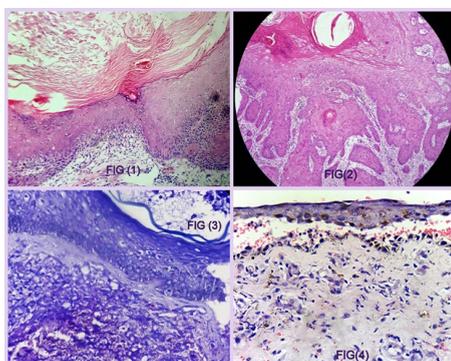
II	Seborrhoeic keratosis	2	VI	Squamous Cell Carcinoma	16
	Verruca vulgaris	4		Basisquamous Cell Carcinoma	2
	Benign papillomatous lesion	2		Keratoacanthoma	2
	Basal cell carcinoma	9		Proliferating Trichilemmal cyst (pilar tumor)	1
	Neurofibroma	3		Metastatic Malignant Melanoma	1
III	Psoriasis	2		Syringocystadenoma papilliferum	1
	Pityriasis rosea	1		Nevus Sebaceous of Jadassohn	2
	Lichen planus	2		Cellular dermatofibroma	1
	Keratoacanthoma	1		Keloid	2
	Leucocytoclastic Vasculitis	2		Cavernous Hemangioma	2
IV	Acute contact Dermatitis	3		Glomus Tumor	2
	Pemphigus Vulgaris	3	VII	Acral Lentiginous Melanoma	1
	Bullous Pemphigoid	2	VIII	Erythema nodosum Leprosus	4
V	Lepramatous leprosy	3		Sinus Histiocytosis with massive lymphadenopathy	1
	Borderline Tuberculoid	6			
	Borderline borderline	2			
	Tuberculoid Leprosy	3			
	Degos Syndrome	1			
	Lupus Vulgaris	1			
	Tuberculosis	1			

Discussion:

The total number of skin biopsies and specimens in retrospective two years study was 100. In our study we got only 4 cases (4 %) group I cases. 20 cases falls under group II, most common among these was basal cell carcinoma. Group III and IV belong equal number of cases i.e. 8 cases. In group V most common type of leprosy was borderline tuberculoid leprosy i.e. 6 cases.

Total number of cases in group V was 22 among these one rare condition Degos disease was also diagnosed in this group. Highest number of skin lesions were found in group VI among these squamous cell carcinoma was very common. More number of patients of squamous cell carcinoma were males belongs to age group 51- 60 years age .One case belongs to group VII and 5 cases were found in group VIII.

Photomicrographs of skin lesions:



Fig(1) Seborrhoeic Keratosis, H & E Stain (100x)
Fig(2) Trichilemmal Tumor, H & E Stain(100x)
Fig (3) Lepromatous Leprosy, Z N Stain(100x)
Fig (4) Pemphigus Vulgaris, H & E Stain(100x)

A study by Sanjeev N et al found more number of cases in group V and common age group was 21-30 with male preponderance.[3] Another study by Gabriel Olabiyi Ogun et al found commonest age group was 20-29[6]. Sonal A et al commonest age group 31-40 with male preponderance [7]. A study by Sushma et al found male preponderance and first most common lesion epidermal cyst followed by squamous cell carcinoma.[8]

One of the studies among pediatric cases D'costa F Grace found maximum numbers of biopsies were from children of older age and with male preponderance with most commonly involved site were limbs.[9] Male to female ratio in a study by Adhikari RC et al showed male to female ratio was 1.08:1 same as compare to present study.[10]

Conclusion:

Our study concluded that skin diseases show wide variety of lesions which may be different according to age, sex, site ,region, customs, race and clinical presentation. Histopathology is still a gold standard in diagnosing various skin lesions .Male population showed wide range of skin lesions as compare to females in later decades.

References

- Mamatha K, Susmitha ,Vijayalaxmi. SP, Sathyashree K, Disha B.S. Histopathological spectrum of dermatological lesions –An experience at tertiary care centre. IP Archives of cytology and histopathology Research, April-June, 2018; 3(2): 83-88.
- Yadav S, Sharma U, Raghava V, Bali IK. Histopathological spectrum of skin lesions among patients in a rural community, Chandu-Bhudhera, FMHS, SGT Medical college, hospital and research institute Gurgaon, Haryana. International journal of Current Advance research.07 (5)pp.12427-30.
- Narang S, Jain R. An evaluation of histopathological findings of skin biopsies in various skin disorders. APALM. 2015 Jan-Mar;2(1):A42-6.
- Goyal N, Jain P, Malik R, Koshti A, Spectrum of non neoplastic skin diseases: A Histopathology based Clinicopathological correlation study. Sch J App Med Sci.2015;3(1F):444-9
- David EE, Rosalie E, Adam IR, Michael L, Jeffrey M, O.Fred M. Atlas and synopsis of Lever's Histopathology of skin., 3 rd edi, Wolter Kluwer , Lippincott Williams and Wilkins, Philadelphia.2013.vii
- Gabriel Olabiyi O, Obumneme EO. The spectrum of non-neoplastic lesions in Ibadan, Nigeria: a histopathologic study.Pan Afr Med J. .2016;23: 221-28
- Agrawal S, Mishra KB, Gupta CM. Histopathological spectrum of non infectious erythematous ,papulo-squamous lesions: at a tertiary care institute. Int J Res Med Sci 2018;6: 2072-5.
- Sushma C, Poorna BH, Khader MF, Sujatha C, Lavanya G, Prasad BVS< Anuradha S. Histomorphological motif of skin lesions- A Model Analysis in atertiary care teaching hospital. IOSR Journal of dental and medical sciences, vol 17, issue 5, ver .7(May 2018) pp 70-76.
- D' costa FG, Bendale KA, Patil YV. Spectrum of pediatric skin biopsies.Indian J Dermatol, 2007;52(2):111-15.
- Adhikari RC, Shah M, Jha AK. Histopathological spectrum of skin diseases in a tertiary skin health and referral centre. J Pathol Nep 2019;9: 1434-40.