Clinicopathological Study of Non-Neoplastic Skin Lesions - A Retrospective Study of 350 Cases

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ABSTRACT

BACKGROUND

Skin with its appendages is a complex dynamic organ composed of cells like keratinocytes, melanocytes, Langerhans cells, Merkel cells, dendrocytes that contribute to protective functions. Imbalances in factors affecting the delicate homeostasis cells may result in conditions as diverse as blisters and rashes and even life threating cancers and disorders of immune regulation. Skin problems are most commonly encountered health problems in India. Their prevalence ranges from 6.3-11.16%. Skin biopsy followed by histopathological study is needed for accurate diagnosis because the treatment and prognosis tend to be disease specific. The aim of the present study was to classify and determine demographic distribution of the various skin disorders prevalent in this region of the country.

METHODS

The present study was carried out in the department of Pathology, Govt. Medical College, Jammu, a tertiary care centre. The study was a retrospective study and was done during the period of September 2016 to October 2018 i.e. 2 years. Data for retrospective study was obtained from departmental records, tissue blocks, and slides.

RESULTS

350 cases were included in the study out of which 200 cases (57.2%) were males and 150 cases (42.8%) were females with male to female ratio of 1.3:1. Majority was in the age group of 31-40 years (31.4%) followed by 21-30 years age group (24.2%) of the cases. The least number of cases was in 0-10 years age group. With 34.3% of patients, most common diagnosis in our study is Hansen's disease followed by bullous lesions constituting about 17.1% of the total cases. Third in frequency were disorders of pigmentation and melanocytes. Inflammatory lesions accounted for 12.3% of the total cases. Benign epithelial tumours and dermal tumours comprised 6.3% and 5.4% respectively. Infectious aetiology was also found in 5.7% (20 cases) of the total cases.

CONCLUSIONS

For confirmation of diagnosis of skin lesions and initiation of treatment, histopathological examination of the skin biopsy remains the gold standard which can be supported with the other techniques to confirm the diagnosis.

KEYWORDS

Skin Biopsy, Non-Neoplastic Skin Lesions

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DOI: 10.18410/jebmh/2020/119

Financial or Other Competing Interests: None.

How to Cite This Article:
Sharma M, Gupta N. Clinicopathological study of non-neoplastic skin lesions- a retrospective study of 350 cases. J. Evid. Based Med. Healthc. 2020; 7(11), 544-547. DOI: 10.18410/jebmh/2020/119

Submission 14-02-2020,
Peer Review 20-02-2020,
Acceptance 25-02-2020,
Published 12-03-2020.

BACKGROUND

Skin with its appendages is a complex dynamic organ in which precisely regulated cellular and molecular interactions govern many crucial responses to our environment. More than being just a barrier to fluid loss and mechanical injury, skin is composed of cells like keratinocytes, melanocytes, Langerhans cells, Merkel cells, dendrocytes that contribute to protective functions.[1] Imbalances in factors affecting the delicate homeostasis that exists among skin cells may result in conditions as diverse as wrinkles and hair loss, blisters and rashes and even life threating cancers and disorders of immune regulation.[2]

Dermatological lesions are commonly encountered in all countries and it encompasses a wide spectrum.[3] It varies from country to country and various regions within a country.[4] This variation is also influenced by sex, age and associated systemic disorders, economy, literacy, racial and social customs.[4] Skin problems are most commonly encountered among the health problems in India.[3] Its prevalence ranges from 6.3-11.16%.[5] But most of them are not being regarded as significant problem, because of the presumption that many are benign and not life threatening.[6] However, some of them requires major medical attention and pose great psychological impact on the quality of life.[7] Skin biopsy followed by histopathological study is needed for accurate diagnosis, identifying etiological agent with special stains wherever feasible, and to help clinicians to decide the appropriate management.[6,8] Clinicopathological correlation offers a substantial clue in arriving at the diagnosis.[3] So the separation of each of these becomes important because the treatment and prognosis tends to be disease specific. Thus early recognition, diagnosis and treatment offer the best chance for cure.[9]

The aim of the present study was to classify and determine demographic distribution of the various skin disorders prevalent in this region of the country.

METHODS

The present study was carried out in the department of Pathology Govt. Medical College, Jammu a tertiary care centre. The study was a retrospective study and was done during the period of September 2016 to October 2018 i.e. 2 years. Data for retrospective study was obtained from the Performa and formalin fixed, paraffin embedded, and H &E stained slides were prepared from the blocks wherever required. Only non-neoplastic skin lesions were included in our study. Malignant cases and autolysed skin biopsies were not included in our study.

RESULTS

The present study was a retrospective study, which included all the skin biopsies received at the histopathology section in Pathology department of our institute for the period of two years. A total of 350 cases were included in the study and comprised 200 cases (57.2%) of males and 150 cases (42.8%) of females with male to female ratio of 1.3:1.

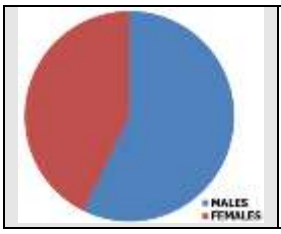

Figure 1.
Sex Wise Distribution

Age Group	No. of Cases
0-10 yrs.	17(5%)
11-20 yrs.	20 (6%)
21-30 yrs.	85(24.2%)
31-40 yrs.	110(31.4%)
41-50 yrs.	46(13%)
51-60 yrs.	30(8.5%)
61-70 yrs.	22(6.2%)
> 70 yrs.	20(5.7%)
Total	350

Table 1. Age Wise Distribution

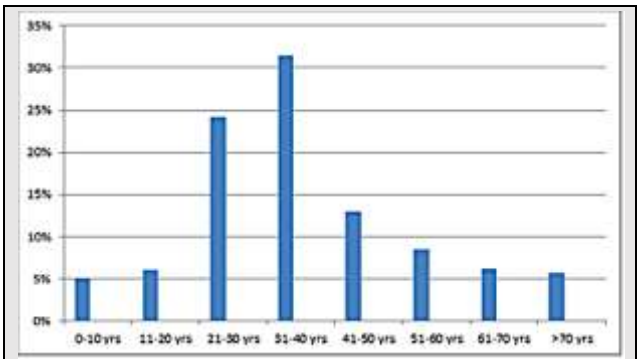

Figure 2. Age Wise Distribution

The maximum number of cases were the age group 31-40 years comprising 31.4% followed by 21-30 years age group with 24.2% of the cases. The least number of cases were in 0-10 age group. With 34.3% of patients, most common diagnosis in our study is Hansen's disease followed by bullous lesions constituting about 17.1% of the total cases. Third in frequency were disorders of pigmentation like intradermal nevus, compound nevus, dermal nevus, intradermal melanocytic nevus, blue nevus, verrucous nevus. Inflammatory lesions comprised 12.3% of the total cases and included DLE, psoriasis, lichen planus, dermatitis, seborrheic keratosis.

Amongst benign epithelial tumours (22 cases), the most common diagnosis was epithelial cysts like trichilemmal, epidermal inclusion, dermoid and keratinous cyst, while vascular tumours (10 cases) like haemangioma and pyogenic granuloma were most common among tumours of dermis. Hair follicle tumours constituted 1.9% out of which majority of cases were pilomatricoma followed by trichoepithelioma and trichofolliculoma. Infectious aetiology like cutaneous leishmaniasis, lupus vulgaris, post kala-azar dermal leishmaniasis, sporotrichosis, verruca, molluscum contagiosum were also found out in 5.7% (20 cases) of the total cases. Panniculitis and tattoo granulomas were also

diagnosed in 5 cases (1.4%) and 4 cases (1.1%) respectively.

Lesions	No. of Cases
Hansen Disease	120 (34.3%)
lepromatous	60
tuberculoid	53
ENL	3
histoid	4
Disorders of Pigmentation	**52 (15%)**
Interdermal nevus	18
Dermal nevus	10
Compound nevus	3
Verrucous nevus	4
Blue nevus	2
Backer s nevus nevus sebaceus	4
Intradermal melanocytic nevus	11
Inflammatory Conditions	**43 (12.3%)**
psoriasis	15
Lichen planus	7
DLE	9
Seborrheic dermatitis	4
Chronic dermatitis/lichen simplex chronicus	2
Lichenoid dermatitis	2
Allergic contact dermatitis	3
Erythema multiforme	1
Bullous Lesions	**60 (17.1%)**
Pemphigus vulgaris	30
Bullous pemphigoid	27
Dermatitis herpetiformis	3
Disorders of Epidermal Maturation	**2 (0.6%)**
Lamellar ichthyosis	
Benign Epithelial Tumours	**22 (6.3%)**
Seborrheic keratosis	4
Fibroepithelial polyp	4
Cyst	6
-ketionous	
-trichemenial	
-epidermal inclusion	
-dermoid	
keratoacanthoma	3
Adnexal tumours	5
Tumours of Dermis	**19 (5.4%)**
Dermatofibroma	4
Xanthoma	1
Haemangioma	6
Pyogenic granuloma	4
Neurofibroma	2
Leiomyoma	1
Mycosis fungoides	1
Infections	**20 (5.7%)**
verruca	6
Post kala azar dermal leishmaniasis	3
Molluscum contagiosum	2
sporotrichosis	2
Scrofuloderma	3
Lupus vulgaris	4
Panniculitis	5 (1.4%)
Granulation Tissue	3 (0.8%)
Tattoo Granuloma	4 (1.1%)

Table 2. Pattern of Lesions

DISCUSSION

There is high prevalence of skin disorders in developing countries and the histopathological spectrum of which has been highly variable. Inflammatory skin diseases often pose challenges to the dermatologist and are biopsied for histopathological confirmation of the diagnoses. This study was carried out at the department of Pathology Govt. Medical College, Jammu for a period of 2 years (Sep 2017 to Oct 2019) and included 350 skin biopsies specimens received in the dept. It included 200 cases of males and 150 cases of females with male to female ratio of 1.3:1. This is concordant to a study by Kumar V et al[10] which showed a male predominance with male to female ratio of 3/2, while a study by Mamatha K et al[11] depicted female predominance with 150 cases out of a total of 286 cases. In the present study, the maximum number of cases were the age group 31-40 years comprising 31.4% followed by 21-30 years age group with 24.2% of the cases. The least number of cases were in 0-10 age group. This was dissimilar to results of various studies like study by Kumar V et al[10] showed 22% of the patients were in the age group of 21 to 30 years and 19.8% of the patients were in the age group of 31-40 years. 25% of the patients were in the age group of 21 to 30 years in the study by Yonus et al.[12] 23.75% of the patients were in the age group of 31 to 40 years in the study by Rajasekhar et al.[13] With 34.3% of patients, most common diagnosis in our study is Hansen's disease followed by bullous lesions constituting about 17.1% of the total cases. This is in concordance with a study by Kumar V et al[10] in which, most common diagnosis was Hansen's disease(30.6% cases) followed by vesicobullous lesions with 12.5% of cases. In the study by Bharambhe et al[14] lichenoid lesions were most common (46.57%) followed by psoriasis (19.88%). Most common histopathological diagnosis was Psoriasis (42.5%) followed by Lichen planus in the study by Rajasekhar et al.[13] In the present study, hair follicle tumours constituted 1.9% out of which majority of cases were pilomatricoma followed by trichoepithelioma and trichofolliculoma. Various studies by Gundalli S et al,[15] Solanki RL et al[16] (1989), Nair SP et al[17] (1989) and Kartha et al[18] (1982) noted higher frequency of sweat gland tumours in their study. Skin biopsy is easy, simple, inexpensive and outpatient procedure which provides adequate material for confirmation of the clinical diagnosis and further follow up.[8]

CONCLUSIONS

The spectrum of skin lesions is highly variable. Therefore, for confirmation of diagnosis and initiation of treatment, histopathological examination of the skin biopsy remains the gold standard which can be supported with the other techniques to confirm the diagnosis. Knowledge of histopathological patterns can help in treatment and planning an effective management.

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