

Histopathological Spectrum of Dermatological Diseases in a Tertiary Care Centre from North Maharashtra Region

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Abstract

Introduction: Skin diseases are one of the most common health problems in India. Histopathological examination of skin biopsy is the gold standard for most dermatological diagnosis. Our medical college being the only govt tertiary institute in north Maharashtra this work has been undertaken, to study the spectrum of various skin disorders that affect the north Maharashtra population. *Methods:* The study was undertaken in the department of Pathology, S.B.H. Govt Medical College and Hospital, Dhule the only tertiary care centre in North Maharashtra region. It included all the skin biopsies received by the department of pathology for histopathological examination during January 2013- December 2015. Histopathological classification of skin diseases based on the site, pattern and cytology of the histological changes seen in the biopsy was used. According to which we divided skin diseases in VIII groups. *Results:* Out of 175 patients highest no of patients (n=39) were observed in 21 to 30 yrs with majority being females (50.28% n=88). Maximum no of cases belonged to group V disorders (n=75; 42.86%) i.e. perivascular, diffuse and granulomatous infiltrates of reticular dermis followed by, Group VI disorders (n=30; 17.14%) i.e. tumors and cysts of dermis and subcutis. In the group V leprosy was the most prevalent skin disease (n=57). Pemphigus vulgaris (2.86%) was the most common vesiculobullous lesion. *Conclusions:* Leprosy is the most common (42.86%) skin problem seen in the present population. This emphasizes the need for the rigorous measures to be implemented for prevention, diagnosis and treatment of leprosy in the present region.

Keywords: Leprosy; Skin Biopsy; Skin Tumor; Vesiculobullous.

Introduction

Skin conditions are one of the most common health problems in India. The pattern of skin diseases varies from country to country and various regions within the same country [1]. Various lesions affecting the skin range from non-specific dermatosis and inflammatory diseases to neoplastic changes of various components of the skin. Skin biopsy is a biopsy technique in which a skin lesion is removed and sent to the pathologist for microscopic diagnosis. The histological diagnosis in turn is used by the clinicians to aid in the management of patients. The most accurate diagnosis is the one that most closely correlates with the clinical features and helps in planning the most appropriate

clinical intervention. Histopathology is highly specific and sensitive for many lesions and it remains the gold standard for most dermatological diagnosis [2].

With growing awareness & improvement in medical facilities, spectrum of diseases has been highly variable. Clinical diagnosis of different entities is often difficult, as most of the appendageal tumors present as asymptomatic papules or nodules. Anatomical location, number and distribution of lesions provide important clue but histopathology is invaluable in confirmation of the diagnosis [3-6]. Our medical college being the only government tertiary institute in north Maharashtra region this work has been undertaken, to study the spectrum of various skin diseases that affect the north Maharashtra population.

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Subjects and Methods

The study was undertaken in the department of Pathology, S.B.H.Govt Medical College and Hospital,

Dhule the only tertiary care centre in North Maharashtra region. The study is both retrospective and prospective in nature. It included all the skin biopsies received by the department of pathology for histopathological examination during January 2013-December 2015. The cases retrieved from the archives during January 2013- December 2014 along with the cases received for histopathological evaluation during the period January 2015-December 2015. The Histopathology slides of skin biopsies of all the cases were evaluated. Slides were stained with Hematoxylin and Eosin (H & E) stain, and were also subjected to Ziehl-Neelsen (ZN) stain where indicated. A total of 179 biopsies were studied during the study period.

We have used the histopathological classification of skin diseases based on the site, pattern and cytology of the histological changes seen in the biopsy. According to which we have divided skin diseases in VIII groups.

- Group I. Disorders mostly limited to the epidermis and stratum corneum
- Group II. Localized superficial epidermal or melanocytic proliferations
- Group III. Disorders of the superficial cutaneous reactive unit
- Group IV. Acantholytic, vesicular, and pustular disorders
- Group V. Perivascular, diffuse, and granulomatous infiltrates of the reticular dermis

- Group VI. Tumors and cysts of the dermis and subcutis
- Group VII. Inflammatory disorders of skin appendages
- Group VIII. Disorders of the subcutis

Results

179 biopsies were studied during the study period. Four of the biopsies were labeled as inadequate. Out of 175 patients 50.28% (n=88) were females and 49.71% (n=87) were males. Age of the patients ranged from 2 to 84 years with maximum patients belonging to 21 to 30 yrs (n=39) followed by 41 to 50 yrs (n=38).

Out of 175 cases which were given definitive diagnosis, maximum cases belonged to Group V disorders (n=75; 42.86%) i.e. perivascular, diffuse and granulomatous infiltrates of reticular dermis followed by, Group VI disorders (n=30; 17.14%) i.e. tumors and cysts of dermis and subcutis and Group II disorders (n=25; 14.29%) i.e. localized superficial epidermal or melanocytic proliferations. Least number of cases were Group VIII disorders (n=3; 1.71%) i.e. disorders of the subcutis. In the group V leprosy was the most prevalent skin disease (n=57).

Table 1: Groupwise distribution of cases

Group	HP diagnosis	No. of cases	(%)	Total no. of Cases in the group	(%)
Group I	Pityriasis rubra pillaris	1	0.57	5	2.86
	actinic lentigo	1	0.57	-	-
	acquired ichthyosis	1	0.57	-	-
	Erythema Dyskeratoma Perstane	1	0.57	-	-
	X linked ichthyosis	1	0.57	-	-
Group II	actinic keratosis	1	0.57	25	14.29
	Basisqamous/superficial melanoma	1	0.57	-	-
	BCC + pigmented BCC BCC	3+2+1=6	3.42	-	-
	developing in nevus sebaceous +				
	condyloma accuminataum	1	0.57	-	-
	epidermodysplasia verucciformis	1	0.57	-	-
	filliform wart	1	0.57	-	-
	inverted papilloma	1	0.57	-	-
	keratoacanthoma	3	1.71	-	-
	neurofibroma	2	1.43	-	-
	nevus sebaceous	1	0.57	-	-
	porokeratosis	2	1.43	-	-
	psoriasis	2	1.43	-	-
	seborhic keratosis	1	0.57	-	-
	xeroderma pigmentosa	1	0.57	-	-
punctate palmoplantar keratoderma	1	0.57	-	-	
Group III	polymorphous light eruption	3	1.71	15	8.57
	fixed drug eruption/erythema multiformae	6	3.43	-	-

	lichen planus	5	2.86	-	-
	pityriasis rosea	1	0.57	-	-
Group IV	atopic dermatitis	2	1.43	21	12
	bullous pemphigoid	3	1.71	-	-
	dermatitis herpetiformis	4	2.29	-	-
	eczema	1	0.57	-	-
	erythroderma	1	0.57	-	-
	pemphigus foilaceous	3	1.71	-	-
	pemphigus vulgaris	5	2.86	-	-
	pustular psoriasis	1	0.57	-	-
	guttate psoriasis	1	0.57	-	-
Group V	BL leprosy	13	7.43	75	42.86
	BT leprosy	24	13.71	-	-
	Discoid lupus erythmatosus	1	0.57	-	-
	granuloma annulare	1	0.57	-	-
	idiopathic calcinosis	1	0.57	-	-
	indeterminate leprosy	7	4	-	-
	Lepromatous leprosy	6	3.42	-	-
	pityriasis lichenoid chronica	2	1.43	-	-
	scleroderma	3	1.71	-	-
	scrofuloderma	4	2.29	-	-
	Tuberculoid leprosy	7	4	-	-
	tuberculosis verrucosa cutis	2	1.43	-	-
	Lupus vulgaris	2	1.43	-	-
	xanthoma	2	1.43	-	-
Group VI	benign adnexal tumor	1	0.57	30	17.14
	cylindroma	1	0.57	-	-
	DFSP	1	0.57	-	-
	dermatofibroma	2	1.43	-	-
	glomus tumour	1	0.57	-	-
	herpes simplex	1	0.57	-	-
	herpes zoster	1	0.57	-	-
	histioid leprosy	1	0.57	-	-
	intradermal nevus	1	0.57	-	-
	malignant melanoma	4	2.29	-	-
	malignant proliferating trichilemal tumor	1	0.57	-	-
	nodular hidradenoma	4	2.29	-	-
	pilomatrixoma	4	2.29	-	-
	proliferating trichilemal tumor	1	0.57	-	-
	SCC	1	0.57	-	-
	trichilemal cyst	1	0.57	-	-
	Trichilemoma	1	0.57	-	-
	trichoepithelioma	3	1.71	-	-
Group VII	telogen effluvium	1	0.57	1	0.57
Group VIII	erythema nodosum leprosum	2	1.43	3	1.71
	erythema nodosum	1	1.43	-	-
Inadequate		4	2.23	4	-

Discussion

The present study is a retrospective and prospective in nature. 179 cases were studied. Maximum no. of patients belonged to 21 to 30 years of age group. This finding correlated well with a study conducted by Narang et al [7]. Skin lesions were more common in females (50.28%) as compared to males (49.82%). This slight female predominance correlated well with a

study by Baur et al [8] in which 51.5% of the patients were females.

In the present study we have used the histopathological classification of skin diseases based on the site, pattern and cytology of the histological changes. According to which we have divided skin diseases in VIII groups. The group V diseases i.e. those associated with perivascular diffuse and granulomatous infiltrate were the commonest (n=75;

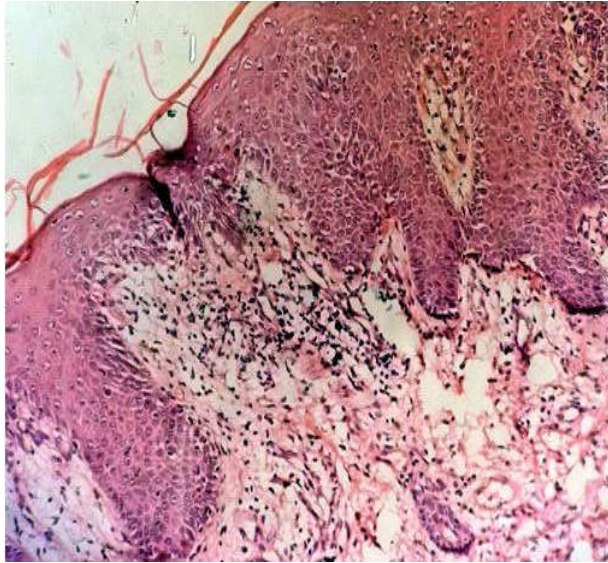


Fig. 1: Erythema multiformae

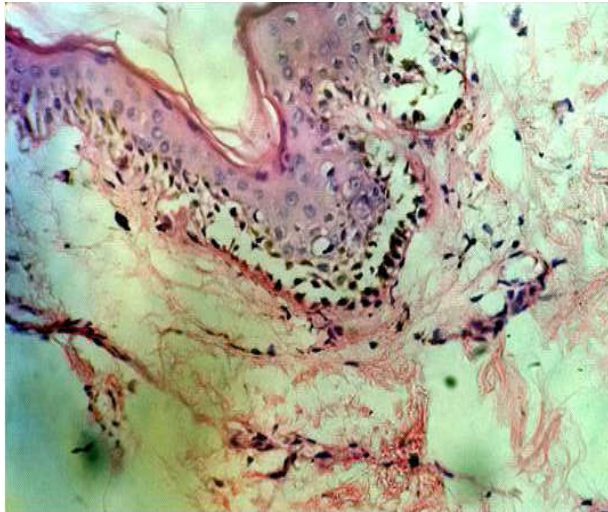


Fig. 2: Pemphigus vulgaris

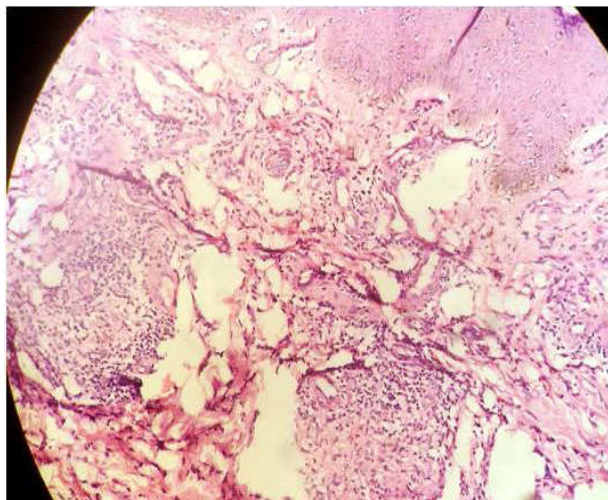


Fig. 3: Borderline tuberculoid leprosy

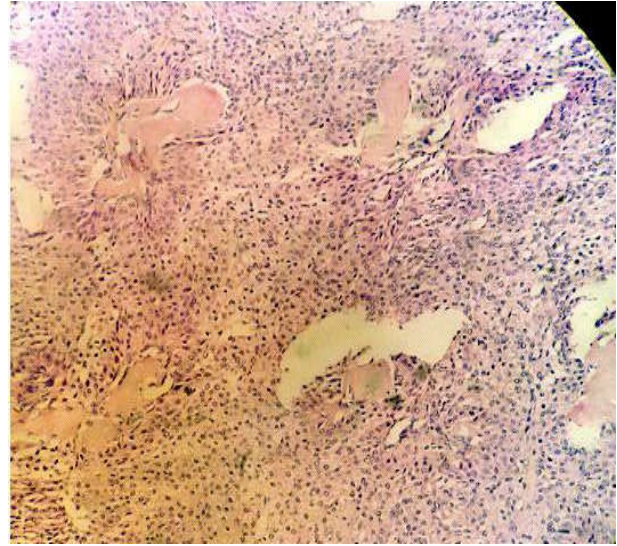


Fig. 4: Nodular hidradenoma

42.86%) of all. Among them leprosy was the most common (n=54; 72%) skin lesion. The group VI disorders i.e. The tumors and the cysts of dermis and subcutis constituted the next common group (n=30; 17.14%). These findings correlated well with the findings of Narang et al [7]

There were only 5 cases in group I disorder (2.86%) two of them being ichthyosis. Among the group II diseases basal cell carcinoma was the commonest (n=6; 3.42%) followed by keratoacanthoma (n=3; 1.71%). These findings were different from Narang et al who also followed the same classification.

In group III diseases erythema multiformae (3.43%) was the commonest lesion followed by lichen planus (2.86%). These findings are different from Gulia et al [9] who found lichen planus (5.6%) more common than erythema multiformae (0.8%).

In group IV disorders the vesiculobulous lesions were the most common (8.57%) of all. Among them pemphigus vulgaris (2.86%) was the commonest followed by dermatitis herpetiformis (2.29%), bullous pemphigoid (1.71%) and pemphigus foliaceus (1.71%) respectively. These findings correlated well with the findings of Narang et al [7] and Das KK et al [1] In group V diseases leprosy accounted for maximum no of cases (32.56%) followed by scrofuloderma (2.29%). This incidence of leprosy is quite high compared to that observed by Grover et al [11] (3.8%) and Narang et al [7] (17.55%) and quite low compared to Goyal et al [12] (75.7%). The significant variation might be because of the geographic, demographic and socioeconomic variation in the study population in the present study. The borderline tuberculoid leprosy (13.71%) was the

most common type followed by the borderline lepromatous leprosy (7.43%).

In the group VI diseases i.e. the tumors and the cysts of dermis and subcutis the nodular hidradenoma (2.29%) and pilomatrixoma (2.29%) were the commonest benign skin adnexal tumors followed by trichoepithelioma (1.71%). Malignant melanoma was the commonest malignant tumor (2.29%). The findings correlated well with the study by Singh et al [13] and Radhika et al [14].

The differences in the observations in the present study and the studies carried out in the past could be because of the geographical, demographic and socioeconomic variations in the study populations which are ultimately responsible for the variable distribution of the etiological factors in the community for causing the diseases.

Conclusion

The present study population represents the population of north Maharashtra region. The skin diseases are common in females (50.28%) as compared to males (49.71%) with 21 to 30 yrs being the commonest (22.22%) age group affected. Leprosy, an infectious disease is the most common (42.86%) skin problem seen in the present population. This emphasizes the need for the rigorous measures to be implemented for prevention, diagnosis and treatment of leprosy in the present region. The tumors and the cysts of the dermis and epidermis is the next common skin problem faced. The tumors of the sweat gland (2.29%) and the pilosebaceous unit (2.29%) are the commonest benign adnexal tumors while melanoma (2.29%) being the commonest malignant tumor. The commonest vesiculobulbous lesion is the pemphigus vulgaris (2.86%) followed by the dermatitis herpetiformis (2.29%). Skin biopsy study is the important tool for the definitive diagnosis of various skin lesions suspected clinically.

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