International Journal of Clinical and Diagnostic Pathology

ISSN (P): 2617-7226
ISSN (E): 2617-7234
www.patholjournal.com
2021; 4(4): 144-148
Received: 01-07-2021
Accepted: 03-08-2021

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Clinicopathological study of skin lesions at a rural tertiary care centre: Study of 220 cases

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DOI: https://doi.org/10.33545/pathol.2021.v4.i4c.434

Abstract
Skin biopsy remains the gold standard investigation & irreplaceable diagnostic tool in dermatological diseases. Developing countries have reported higher prevalence of skin diseases and the spectrum of these diseases is highly variable. Here we present a clinicopathological study of skin lesions in 220 cases. Out of 220 skin biopsies studied, 9.5% were inadequate samples, followed by17.27% inflammatory lesions, 53.18% benign and 20% malignant lesions respectively. The age range in the present study was 5 years to 91years with a male to female ratio of 1.8:1. Epidermal cyst was the most common benign lesion while squamous cell carcinoma was the most common malignancy encountered histologically in the present study. Study highlights the range, variation & proportion of various skin lesions at rural tertiary care centre. It emphasizes the importance of skin biopsy in arriving at a diagnosis. Skin biopsy is pivotal in determining the malignant skin lesion which may mimic benign & vice versa.

Keywords: skin lesions, inflammatory, benign, malignant

Introduction
Skin, being the largest organ of the human body presents with diversity of diseases. Majority of the skin diseases can be diagnosed by history, clinical presentation and biochemical investigation without need of histopathology. However histopathological examination still remains gold standard for helping the dermatologist in overcoming diagnostic dilemma [1]. There is great variation in the pattern of skin diseases. Developing countries have reported higher prevalence of skin diseases and the spectrum of these diseases is highly variable [2]. Skin diseases affect all age groups and are much common in developing countries. In the field of dermatology, 2000 different skin diseases are well known [3].

Materials and Methods
This study of 220 skin biopsies was conducted in the department of pathology at a rural tertiary care centre. The biopsies were processed routinely and formalin fixed and paraffin embedded sections were stained with H & E Stain. Special stains like Fite-Faraco & PAS were applied in relevant cases.

Results
Out of 220 skin biopsies studied, 21 [9.5%] were inadequate samples (Table 1), followed by 38 [17.3%] inflammatory, 117 [53.2%] benign and 44 [20%] malignant lesions respectively. The age range in the present study was 5 years to 91years with a male to female ratio of 1.8:1. Epidermal cyst was the most common benign lesion while squamous cell carcinoma was the most common malignancy encountered histologically in the present study.

Table 1: Sex wise distribution of skin lesions

Sr. No	Lesions	Number	Male	Female	Percentage [%]
1	Inadequate	21	18	3	09.5
2	Inflammatory	38	30	8	17.3
3	Benign	117	75	42	53.2
4	Malignant	44	19	25	20.0
5	Total	220	142	78	100

Table 2: Age wise distribution of inflammatory skin lesions:

Sr. No	Lesions	11-20	31-40	41-50	51-60	>60
1	Acute Inflammatory lesions	1	-	-	-	-
2	Chronic Inflammatory lesions	1	1	2	-	2
3	Foreign body Granulomatous lesions	-	1	1	1	1
4	Pyogenic Granuloma	1	-	1	-	-
5	Fungal granuloma/ Actinomycetoma	1	-	-	-	1
6	Dermatitis	-	1	-	-	-
7	Balanoposthitis		5	1	2	8
8	Balanitis Xerotica Obliterans	-	-	-	1	1
9	Cholesterol Granuloma	-	-	1	-	-
10	Irritated Seborrheic Keratosis	-	-	-	-	3
11	Total [38]	4	8	6	4	16

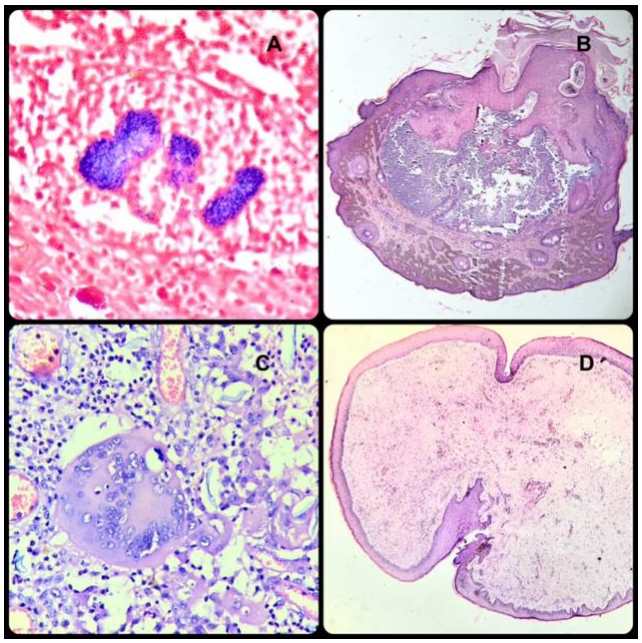

Fig 1: A: Gram positive actinomycetes. [Gram stain:10X];
B: Calcified nodule beneath the skin lining. [H&E: 10X];
C: Foreign body granuloma. [H&E: 40X] and
D: Fibroepithelial polyp. [H&E: 10X]

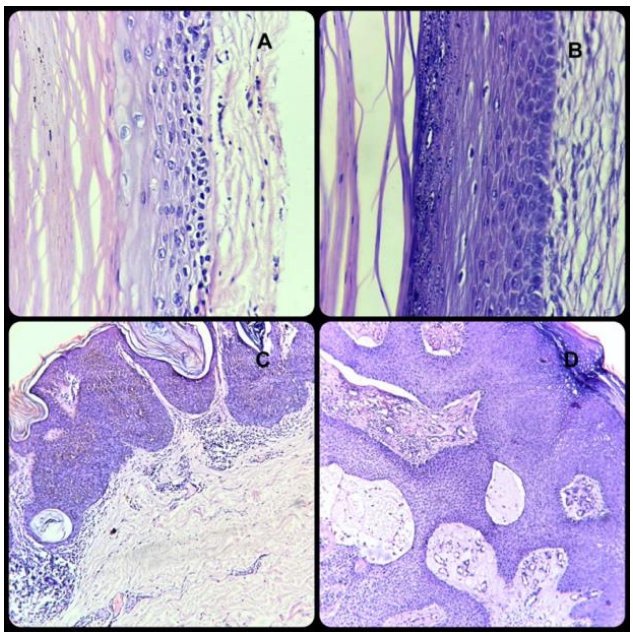

Fig 2: A: Trichilemmal cyst. [H&E:40X]
B: Epidermal cyst. [H&E:40X]
C: Pigmented Seborrheic keratosis [H&E:10X] and
D. Eccrine poroma. [H&E:10X]

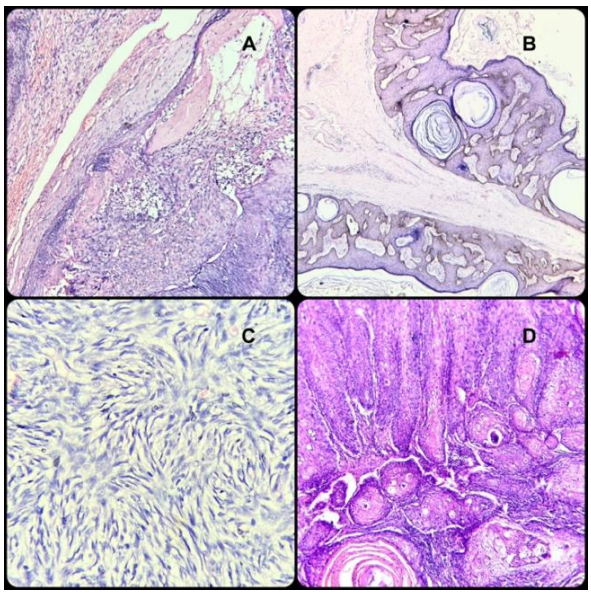

Fig 3: A: Pilomatricoma. [H&E:10X]
B: Seborrheic keratosis, [H&E:10X]
C: Dermatofibroma [H&E:40X] and
D: Verrucous carcinoma. [H&E:10X].

Table 3: Age wise distribution of benign skin lesions

Sr. No	Lesions	0-10	11-20	21-30	31- 40	41-50	51-60	>60
1	Keratoacanthoma	-	-	-	1	-	-	2
2	Large cell acanthoma	-	-	-	-	-	-	1
3	Verruca vulgaris	-	-	-	-	-	-	2
4	Hard fibroma	-	1	-	2	-	-	1
5	Keloid	-	-	3	-	-	-	-
6	Sebaceous hyperplasia	-	-	2	-	-	-	-
7	Pilomatricoma	-	-	-	-	2	1	1
8	Dermatofibroma	-	2	1	1	2	-	--
9	Trichilemmal cyst	-	-	-	1		1	1
10	Proliferating trichilemmal cyst	-	-	-	-	1	-	-
11	Trichoadenoma	-	1	1	-	-	-	-
12	Squamous papilloma	-	-	-	-	-	2	2
13	Trichofolliculoma	-	-	1	-	-	-	--
14	Eccrine poroma	-	-	-	-	1	-	-
15	Fibroepithelial polyp	-	1	1	-	1	-	-
16	Neurofibroma	-	-	1	-	-	-	-
17	Verrucous Papilloma	-	-	1	-	-	-	1
18	Melano-acanthoma	-	-	-	-	-	1	-
19	Eccrine spiroadenoma	-	-	-	-	1	-	-
20	Nevus	-	-	1	-	-	-	1
21	Epidermal cyst	1	7	10	6	5	7	12
22	Scrotal calcinosis	-	-	1	2	-	-	1
23	Keratinous cyst	-	-	4	3	-	-	-
24	Sebaceous cyst	-	-	-	-	1	1	-
25	Seborrheic keratosis	1	-	-	-	-	-	2
26	Dermoid cyst	-	2	-	-	1	-	-
27	Calcinosis cutis	-	1	-	-	-	-	-
28	Differential diagnosis	-	-	-	1	-	-	1
29	Inadequate	-	-	6	5	7	-	3
30	Total: [138]	2	15	33	22	22	13	31

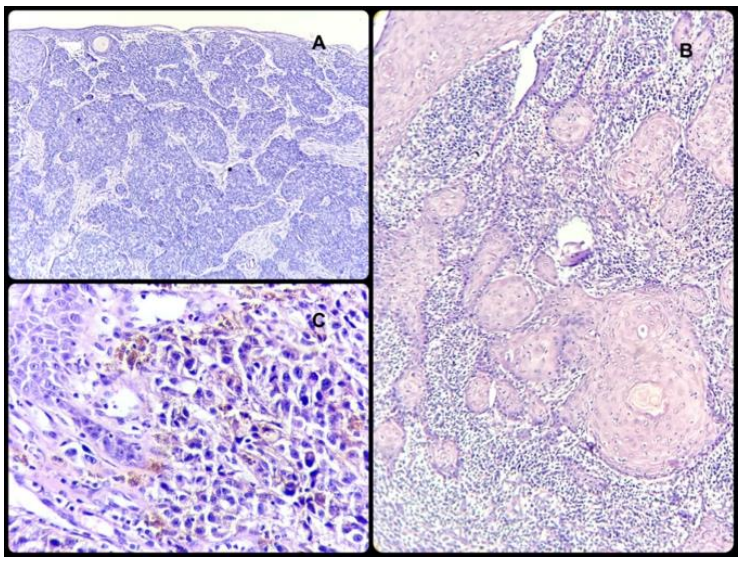

Fig 4: A: Basal cell carcinoma [H&E:10X]
B: Squamous cell carcinoma [H&E:10X] and
C: Melanoma.[H&E:40X]

Table 4: Age wise distribution of malignant skin lesions

Sr. No	Lesions	21-30	31-40	41-50	51-60	> 60	Total
1	SCC	-	3	4	4	15	26
2	Melanoma	-	-	-	1	7	8
3	BCC	1	-	-	1	4	6
4	Malignant eccrine poroma	-	-	-	-	1	1
5	Verrucous carcinoma	-	2	-	1	-	3

Discussion

Skin lesions are due to imbalance in homeostasis that results in conditions as diverse as wrinkles and hair loss, rashes and blisters and life-threatening cancers [4]. A skin biopsy may not be required in all the skin lesions but for the proper diagnosis and identification of etiological agents, dermatologist used to do it [5].

This study showed the highest frequency of skin disease in the age > 60 years. In slight variation to the finding of this study, Chalise Sanat *et al*. [6] found the highest frequency in 41- 50 years. This current study showed male preponderance (table 1) which is similar to the study by Vijayasankar S *et al* [7] and Gupta P *et al*. [8]

Our study showed 53.18% of non-neoplastic skin lesions which was higher in comparison to those of neoplastic skin lesions (20%). This is in concordance to the study Chalise Sanat *et al*. [6] and Thapa R *et al*. [9] Among benign lesions epidermal cyst was the most common lesion in our study.

In the inflammatory lesions, balanoposthitis was the most common lesion observed in males while chronic nonspecific inflammatory lesion was the most common lesion in the females.

In the malignant lesions SCC was the most common lesion comprising about 11.81% which is comparable to the study done by Chalise Sanat *et al*. [6]

In our study inadequate biopsy were about 9.5% which was higher than study done by Chalise Sanat *et al*. [6] No malignant skin lesion was detected in paediatric and adolescent age (0- 20 years) group which is comparable to the study done by Gupta P *et al*. [8]

In our study two cases were inconclusive where definitive diagnosis could not be made and required special stains and IHC studies for confirmation. Both the cases were of benign nature & were added into benign category.

Conclusion

The diversity of clinical presentation of skin diseases makes histopathological examination necessary. It is also important in confirming an established clinical diagnosis.[8] In this study, histopathology confirmed clinical diagnosis in 89.5% cases and was non contributory in only 10.4% cases due to inadequate biopsies and cases with other differential diagnosis.

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