



Histopathological Study of Vesiculobullous Lesions of Skin in a Tertiary Care Teaching Hospital

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ABSTRACT

Histopathological examination of skin biopsy is a cost effective and useful tool to assist in diagnosis of vesiculobullous lesions of skin, understanding course of a disease or monitoring response to therapy. The present study aims at studying the morphological spectrum and evaluating the utility of this microscopic examination on skin biopsy received and processed at the Department of pathology, B. J. Medical College, Ahmedabad, Gujarat. **Materials and Methods** It is a retrospective study conducted on samples received at the Department of pathology last 2 years reported. **Result:** In present observation study 62 cases of vesiculobullous lesions of the skin is diagnosed on basis of histopathological examination. Out of the total 62 cases, 31 (50%) cases were of Intra-epidermal(Suprabasal), 23(37.1%) cases were of subepidermal and 8 (12.9%) Intra-epidermal(Subcorneal) cases were of bullous diseases. The most common age group was age group of 21-30 years which comprises 25.7%(n=16) cases.

Pemphigus Vulgaris were seen in 48.4%(n=30) of cases, whereas 17.8%(n=11) of cases were Bullous pemphigoid. Pemphigus Vulgaris was found to be the most common vesiculobullous lesion

Conclusion: In vesiculobullous lesion despite the need for direct immunofluorescence testing for confirmation, histopathological examination offers easy availability, low cost, minimal interventions and quick diagnosis

Key words: Histopathological study, Vesiculobullous lesions, Skin Biopsy.

I. INTRODUCTION

Vesiculobullous diseases are a group of disorders in which primary lesion is a vesicle or a bulla on the skin or mucous membrane or both.¹ Vesicles (<1 cm) and bullae (>1 cm) are fluid filled cavities formed within or beneath the epidermis. They may occur in many dermatosis, which include various inflammatory, infective, autoimmune, drug induced as well as genetic conditions.² They may occur in many dermatoses, which include various

inflammatory, infective, autoimmune, drug induced as well as genetic.³

Histopathology of skin biopsies is a useful technique in the investigation of various skin diseases, out of which vesiculobullous lesions from one of the predominant groups.⁴

Histological study is one of the most valuable means of diagnosis in dermatology. The greatest diagnostic accuracy is obtained by correlating the clinical and histological findings.⁴

AIMS AND OBJECTIVES

1. To study the spectrum of vesiculobullous lesions in skin and mucous membrane.
2. To study age and sex wise distribution of patient with vesiculobullous lesions
3. To categorize distribution of different entities that are under vesiculobullous lesions spectrum
4. To describe histopathological finding in vesiculobullous lesions
5. To correlate histopathological finding of vesiculobullous lesions with management

II. MATERIALS AND METHODS

This is an observational study over period of 2 years in the Department of Pathology at tertiary care teaching hospital. A histopathological analysis of 62 skin biopsies that were diagnosed after 24 hours' formalin fixation of 4 mm² punch biopsy, tissue was processed in tissue processor and embedded in paraffin wax. Blocks were cut through microtomy and stain with H & E.

III. RESULT

In present observation study 62 cases of vesiculobullous lesions of the skin is diagnosed on basis of histopathological examination.

Out of the total 62 cases, 31 (50%) cases were of Intra-epidermal(Suprabasal), 23(37.1%) cases were of subepidermal and 8 (12.9%) Intra-epidermal(Subcorneal) cases were of bullous diseases.

**Table 1: - Plane of separation of the lesions**

S. No	Plane of Separation	No. of Cases	Percentage
1	Intra Epidermal(Suprabasal)	31	50%
2	Subepidermal	23	37.1%
3	Intra Epidermal(Subcorneal)	8	12.9%

The most common age group was age group of 21-30 years which comprises 25.7%(n=16) cases and second most common age group was 41-50 years which comprises 21%(n=13) cases.

Pemphigus Vulgaris were seen in 48.4%(n=30) of cases, whereas 17.8%(n=11) of cases were Bullous pemphigoid. Pemphigus Vulgaris was found to be the most common vesiculobullous lesions.

A male predominance was observed in the present study with 38 (61.3%) males and 24 (38.7%) females with an overall male to female ratio of 1.58:1. The most common cases of pemphigus vulgaris and bullous pemphigoid were found in males, while cases of pemphigus vulgaris and dermatitis herpetiformis were found in females.

Table 2: -Age Wise Distribution of vesiculobullous lesion

Age group in years	No. of Cases	Percentage
0-10	1	1.60%
11-20	5	8.10%
21-30	16	25.7%
31-40	12	19.4%
41-50	13	21%
51-60	6	9.7%
>60	9	14.6%

Table 3: - Gender wise histological subtypes distribution of vesiculobullous lesions

S. No.	Lesion	Male	Percentage	Female	Percentage	Total	Percentage
1	Pemphigus Vulgaris	21	33.8%	9	14.5%	30	48.4%
2	Bullous pemphigoid	6	9.7%	5	8%	11	17.7%
3	Pemphigus foliaceus	6	9.7%	1	1.6%	7	11.3%
4	Dermatitis Herpetiformis	1	1.6%	6	9.7%	7	11.3%
5	IgA pemphigus	2	3.2%	0	0%	1	3.23%
6	Spongiotic dermatitis	1	1.6%	0	0%	2	1.61%
7	Bullous SLE	0	0%	1	1.6%	1	1.61%
8	Pemphigus Vulgaris vegetans	0	0%	1	1.6%	1	1.61%
9	Pemphigus erythematous	1	1.6%	0	0%	1	1.61%
10	Hailey-Hailey disease	0	0%	1	1.6%	1	1.61%
	Total	38	61.3%	24	38.7%	62	100%

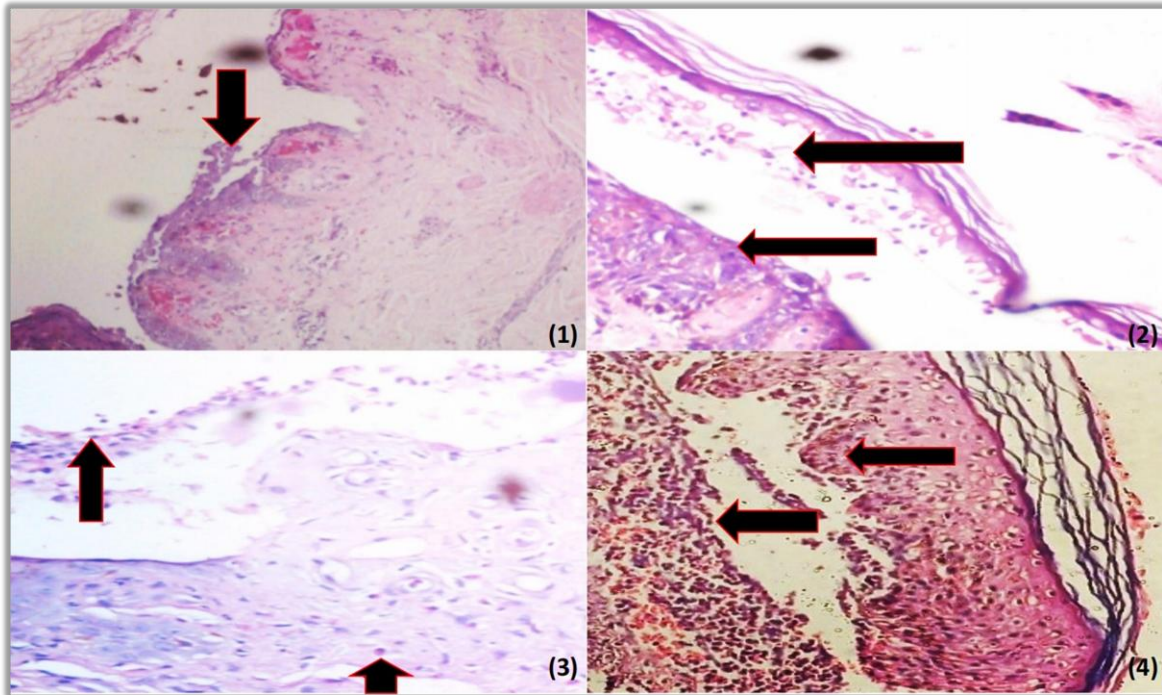


Fig. 1 Histopathological Finding of various vesiculobullous lesion

1. Pemphigus vulgaris-Suprabasal cleft with bullous formation
2. Pemphigus foliaceus- Bullous cavity filled with neutrophils and acantholytic cells
3. Bullous pemphigoid- Plenty of eosinophils in bullous cavity and superficial dermis
4. Dermatitis herpetiformis- Subepidermal separation Dense clusters of neutrophils and scattered eosinophils fill the papillary dermis forming microabscess

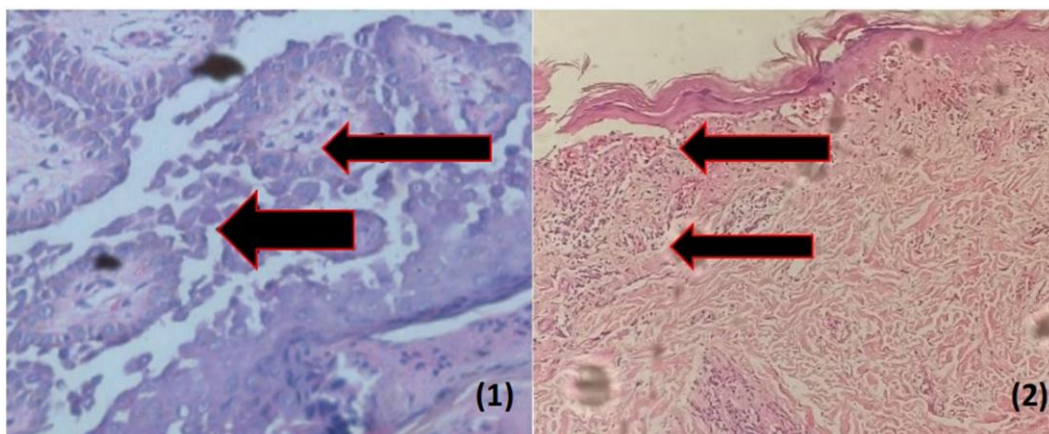


Fig. 2 Histopathological Finding of various vesiculobullous lesion

1. Bullous SLE- Loss of rete ridges and subepidermal bullae and dermal infiltration of neutrophils and lymphocytes with changes of vasculitis. Deep dermis periappendeal heavy infiltration of the inflammatory cell
2. Hailey-Hailey diseases- Supra basal separated villi and acantholytic cells in bullous cavity

IV. DISCUSSION

In our present study, the maximum numbers of subjects (45.5%) were in 3rd and 4th decades. While in study by Prashant R Patel et al² fourth and Ashutosh Kumar et al³ the maximum numbers of subjects in 3rd and 4th decades and fifth decades.



In present study with male to Female ratio was 1.57:1 While in study by Prashant R Patel et al² female preponderance in their study with Female to Male ratio was 1.6:1 and Ashutosh Kumar et al³ showed male preponderance in their study with male to female ratio was 1.18:1

In present study incidence of Pemphigus vulgaris was highest (48.4%) followed by Bullous pemphigoid (17.8%) among all other vesiculobullous diseases. Anil Kumar et al¹,

Prashant R Patel et al² and Ashutosh Kumar et al³ showed similar results with 34.30%, 54.55 and 61.4% cases of pemphigus vulgaris respectively. While other study Thejasvi Krishna Murthy et al⁴, M Pavani et al⁵, Viraktamath Chanabasayya et al⁶ showed low percentage of pemphigus vulgaris inspite of that they showed high incidence of Bullous pemphigoid. This variation may be due to geographic distribution of bullous diseases.

Table 4 Comparison between different studies

S. No.	Diagnosis	Anil Kumar et al ¹	Prashant R Patel et al ²	Ashutosh Kumar et al ³	Thejasvi Krishnamurthy et al ⁴	M Pavani et al ⁵	Present study
1	Pemphigus Vulgaris	35.3%	53%	43%	18.9%	23.8%	48.4%
2	Bullous pemphigoid	32.4%	3%	13.9%	21.6%	38%	17.7%
3	Pemphigus foliaceus	23.5%	5.9%	5.6%	8.1%	2.4%	11.3%
4	Dermatitis Herpetiformis	-	-	5.6%	8.1%	-	11.3%
5	IgA pemphigus	-	3%	-	2.7%	4.8%	3.23%
6	Spongiotic dermatitis	-	-	-	-	-	1.61%
7	Bullous SLE	-	-	2.8%	-	-	1.61%
8	Pemphigus vegetans	2.9%	-	4.2%	2.7%	-	1.61%
9	Pemphigus erythematous	-	5.9%	-	1.3%	-	1.61%
10	Hailey hailey disease	-	-	-	1.3%	-	1.61%
11	Others	5.9%	29.4%	24.9%	35.3%	28.5%	-

V. CONCLUSION

Skin Biopsy is a routine procedure that can help with the diagnosis of vesiculobullous lesion along with clinical examination. Despite the need for direct immunofluorescence testing for confirmation, histopathological examination offers easy availability, low cost, minimal interventions and quick diagnosis. The use of histopathological examination and correlation with clinical examination can aid clinicians in diagnosing and treating patients.

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