

HISTOPATHOLOGICAL STUDY OF VESICULOBULLOUS LESIONS OF THE SKIN: A STUDY AT TERTIARY CARE HOSPITAL

Prashant R Patel¹, Priti B Patel², SG Chiplonkar³

¹Department of Pathology, Government Medical College, Surat, Gujarat, India

²Department of Paediatrics, Government Medical College, Surat, Gujarat, India

³Department of Pathology, Baroda Medical College, Vadodara, Gujarat, India

Correspondence to: Prashant R Patel (drprashant_patel@yahoo.co.in)

DOI: 10.5455/ijmsph.2014.050420141

Received Date: 28.03.2014

Accepted Date: 05.05.2014

ABSTRACT

Background: Vesicles and bullae 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. Diagnosis of vesiculobullous diseases are often challenging on histopathology examination through clinical examination often required for correct diagnosis of it.

Aims & Objective: To study histopathological changes by light microscopy in vesiculobullous disorder of the skin and to correlate clinical and histopathological aspects of vesiculobullous disorder of the skin.

Materials and Methods: Histopathological study of vesiculobullous lesions of skin of 33 cases was carried out on skin biopsies were sent in 10% formalin to histopathology section. It was kept for 24 hours in 10% formalin for proper fixation, subsequently dehydration, clearing, embedding in paraffin wax were carried out. Blocks were made, sections of 3µm thickness were cut and stained with Harris Haematoxylin and Eosin stain and observed microscopically.

Results: In the present study 33 cases of vesiculo-bullous lesions of the skin were diagnosed histopathologically. Pemphigus group of diseases comprises the single largest group of 22 cases (66.66%) observed. the maximum numbers of subjects (51.55%) were in 3rd and 4th decades.

Conclusion: Punch biopsy is a simple, inexpensive, safe OPD procedure, causing minimal discomfort to the patient and no scarring. Clinical examination along with histopathological examination of skin both together help to arrive at correct diagnosis of diseases.

Key Words: Histopathological Study; Skin Biopsies; Vesiculobullous Lesions

Introduction

Vesiculobullous diseases are one of the most important primary morphological patterns of skin reaction to various external and internal pathologic stimuli. Wide variety of pathologic processes can lead to development of vesiculobullous eruptions over body. They may occur in many dermatosis, which include various inflammatory, infective, autoimmune, drug induced as well as genetic.^[1] Vesicles and bullae are fluid filled cavities formed within or beneath the epidermis. Vesicles are less than 0.5cm in diameter and bullae are blisters greater than 0.5 cm in diameter.^[2,3]

Mortality and morbidity in various vesiculobullous lesions differ greatly, therefore accurate diagnosis is important. For diagnosis of vesiculobullous lesions Punch biopsy is most commonly employed technique. Punch biopsy is a simple, inexpensive, safe OPD procedure without any major complications, causing minimal discomfort to the patient and no scarring.^[4] In present study punch biopsies are used for diagnosis of lesions. Present study was carried out to study histopathological changes by light microscopy in

vesiculobullous disorder of the skin and to correlate clinical and histopathological aspects of vesiculobullous disorder of the skin.

Materials and Methods

A histopathological study of vesiculobullous lesions of skin of 33 cases was carried out on skin biopsies received from Department of Skin, S.S.G. Hospital, Vadodara. A detailed history with particular reference to the mode of onset, characteristics and distribution of the lesions was taken. The selection of the site for the biopsy is very critical step and lesion should be selected very carefully. Lesion should be fully developed and uncomplicated, otherwise histopathological examination may be misleading. Biopsy specimen should include lesion as well as normal surrounding tissue, so that advancing border of the lesion can be visualized for histopathological examination of vesicles and bullae. It is important that the entire lesion be removed intact to permit the study of location of vesicle, the nature of its roof and floor and type, condition and cells present in the blister. All the skin lesions in which definitive diagnosis cannot be made with clinical examination were sent for

histopathological examination. Biopsies are usually not taken in painful conditions like herpes simplex, herpes zoster, varicella etc. Skin biopsies were carried out with help of 6mm punch. All tissues were sent in 10% buffered formalin immediately after procedure to histopathology section. It was kept for 24 hours for proper Fixation, subsequently dehydration, clearing, embedding in paraffin wax were carried out. Blocks were made and sections of 3µm thickness were cut and stained with H & E stain. All slides were examined microscopically and diagnosed.

Results

In the present study 33 cases of vesiculo-bullous lesions of the skin were diagnosed histopathologically. Pemphigus group of diseases comprises the single largest group of 22 cases (66.66%) observed. Out of 22 cases, 18 were of pemphigus vulgaris (81.81%), 2 were of pemphigus erythmatosus (9.09%), 2 cases were of pemphigus foliaceus (9.09%). maximum numbers of cases were seen in age group of 31-40 years which comprises 12 (36.40%) cases and second common age group was 21-30 years which comprises 9 (37.37%) cases.

Table-1: Frequency of various vesiculobullous diseases

Diagnosis	N	%
Pemphigus vulgaris	18	54.55
Pemphigus erythmatosus	02	6.06
Pemphigus foliaceus	02	6.06
Bullous pemphigoid	01	3.03
Linear IgA dermatosis	01	3.03
Herpes zoster	02	6.06
Bullous lichen planus	03	9.09
Subcorneal pustular dermatosis	01	3.03
Atopic dermatitis	02	6.06
Erythema multiforme	01	3.03

Table-2: Age wise distribution of vesiculobullous lesions

Age group in years	N	%
0 -10	00	-
11 - 20	01	3.03
21 - 30	09	27.27
31 - 40	12	36.40
41 - 50	05	15.15
51 - 60	02	6.06
61 - 70	02	6.06
>71	01	3.03

Discussion

Though, various primary cutaneous diseases present clinically with vesiculobullous lesions, their etiology, pathogenesis, severity and course differs. Therefore, accurate diagnosis of these diseases are essential for appropriate management to avoid or minimize associated morbidity and mortality.^[5] Light microscopy

of vesiculobullous diseases reveals relatively some of the basic types, one of the simplest and most consistent method for diagnosis and classification of vesiculobullous diseases. All the vesiculobullous diseases show specific histopathological changes which are demonstrated only when early intact vesicle or bulla is included in the biopsy specimen.

In the present study, the maximum numbers of subjects (51.55%) were in 3rd and 4th decades. While in study by AKA Nurul Kabir the maximum numbers of subjects (41.17%) were in fourth and fifth decades.^[6] There was a slight female predominance in present study with female to male ratio was 1.6:1. While in study by Leena JB showed male preponderance in their study with male to female ratio was 1.35:1.^[7]

In present study incidence of pemphigus vulgaris was highest (54.55%) among all other vesiculobullous diseases. Arundhathi et al and vasim Khan et al showed similar results with 69.23% and 60.03% cases of pemphigus vulgaris respectively.^[5,8] While other study showed low prevalence of pemphigus vulgaris which ranges from 45% to 47% of cases. This variation may be due to geographic distribution of bullous diseases.

In our present study subepidermal blistering diseases were observed in 18.19% of cases. Similar results were observed by Rohit Bhalara in their study with 24.535 cases of subepidermal blisters.^[9] Among these subepidermal blistering diseases incidence of bullous lichen planus was higher. While in study of Bhalara and Philippe Bernard, incidence of Bullous pemphigoid was higher than our study.^[9,10]

Conclusion

Punch biopsy of the skin is a simple, inexpensive, safe OPD procedure, causing minimal discomfort to the patient. Histopathological features are conclusive in most of the primary cases of vesiculobullous lesions of skin. Analysis of morphological features, apart from the clinical features helped in the diagnosis of difficult cases that's why diagnostic skin biopsy is frequently used to confirm a clinical diagnosis. Clinical examination along with histopathological examination of skin both together forms an important diagnostic ancillary technique in the management of patients with vesiculobullous lesions of skin where the immunofluorescence technique is not available.

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Cite this article as: Patel PR, Patel PB, Chipionkar SG. Histopathological study of vesiculobullous lesions of the skin: A study at tertiary care hospital. Int J Med Sci Public Health 2014;3:738-740.

Source of Support: Nil

Conflict of interest: None declared

IJMSPH