Original Article

Clinicopathological Concordance in Diagnosis of Dermatological Disorders; A Retrospective Analysis.

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Objective: To analyze the correlation between clinical and histopathological diagnoses in various dermatological disorders.

Methods: Histopathological reports of 669 patients were analyzed retrospectively, between March 2017 and March 2019, in the Department of Dermatology, Jinnah Hospital, Lahore. The consistency between clinical and histopathological diagnoses was analyzed in five groups, namely: (A) descriptive histopathological diagnoses favoring primary clinical diagnoses, (B) definite pathological diagnoses consistent with primary clinical diagnoses, (C) definite pathological diagnoses consistent with one of the provisional clinical diagnoses other than the primary diagnoses, (D) definite pathological diagnoses inconsistent with clinical diagnoses, and (E)inadequate sample requiring repeat biopsy. First three groups showed consistency while latter two groups showed inconsistence or inadequacy of sample.

Results: The histopathological diagnoses were consistent with clinical diagnoses in 464 biopsies (69.35%), and were inconsistent or inadequate in 205 biopsies (30.64%). Most of the biopsies were evaluated by the pathologists in the presence of clinical diagnoses.

Conclusions: In clinical dermatology, providing adequate clinical data is of utmost importance in order to get accurate dermatopathological diagnosis.

Keywords: clinicopathological consistency, dermatological disorders.

Introduction

Skin diseases are very commonly encountered in clinical setting. Their prevalence is often underestimated. Their distribution varies in different parts of the world and even within the same country.[1] These diseases are a source of significant physical and psychosocial disability. No age is immune to these disorders. Their clinical consequences vary from troublesome itching and can even lead to death.[2] Therefore, accurate diagnosis is of paramount importance for early treatment of these lesions. Skin biopsy is a simple and inexpensive procedure performed in the dermatology clinics.[3] Biopsy of skin is taken more easily than other organs. Biopsyhelps us immensely in finding out diagnosis, stages of lesions, pathogenesis and even etiological factors of these diseases. After biopsy, we can use many techniques such as histopathology, immunopathology, polymerase chain reaction and electron microscopy for accurate diagnosis of disease. A successful dermatopathological diagnosis needsevaluation of all clinical and histopathological findings.[4]

Sometimes we are perplexed by a rash and can't make a definite clinical diagnosis, histopathology solves this mystery for us.[5] In this study, our aim was to correlate clinical diagnoses with histopathological diagnoses as only a few studies have been done on this aspect in the world and none in our part of the world.

Methods

After getting approval from Ethical committee, we retrospectively analyzed clinical data and histo pathological reports of 669 patients at the Department of Dermatology, Jinnah Hospital, Lahore. These patients underwent biopsies from 1st April 2017 to 31st March 2019. Patients of either gender and all ages were included. Based on the primary clinical diagnoses, diseases were divided into following groups: (a) papulosquamous disorders, (b) bullous disorders, (c) eczemas, (d) neoplasia, (e) granulomatous disorders, (f) connective tissue diseases, (g) drug reactions, (h) vasculitides, (i) chronic ulcers and (j) miscellaneous disorders. The concordance between clinical and histopathological diagnoses was analyzed in five groups, (A) descriptive histopathological diagnoses favoring primary clinical diagnoses, (B) definite pathological diagnoses consistent with primary clinical diagnoses, (C) definite pathological diagnoses consistent with one of the provisional clinical diagnoses other than the primary diagnoses, (D) definite pathological diagnoses inconsistent with clinical diagnoses, and (E) inadequate sample requiring repeat biopsy. Data was analyzed by SPSS 20.0.

Results

Out of total 669 biopsies, 152 cases had descriptive pathological diagnoses favoring the preliminary clinical diagnoses, 158 patients had reports consistent with primary diagnoses, 154 reports were consistent with one of the three differential diagnoses other than the primary diagnoses, 150 cases had definite pathological diagnoses inconsistent with any of the clinical diagnoses and 55 biopsies were inadequate to comment upon. This shows that reports of 464 patients (69.35%) were concordant with clinical diagnoses and 205 biopsies (30.64%) were inconsistent or inadequate.

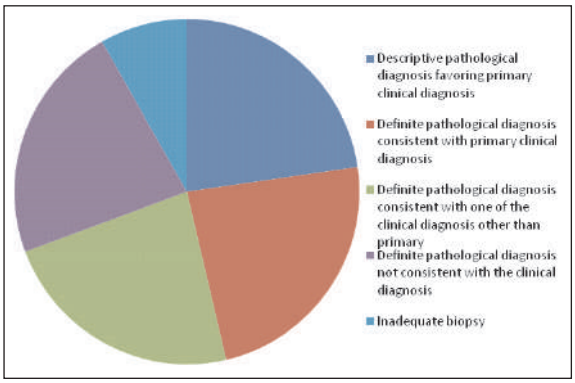

Fig-1: Clinicopathological concordance of cases.

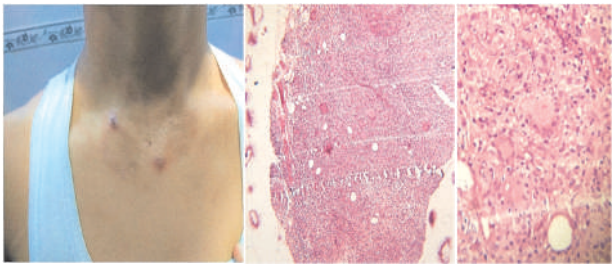

Fig-2: (Clinicopathological concordance in a patient of scrofuloderma: a)multiple draining sinuses on chest, b) and c) histopathology showing chronic granulomatous infiltrate with Langhan type of giant cells.)

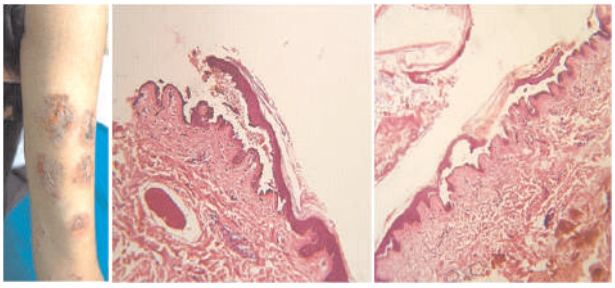

Fig-3:(Clinicopathological concordance in a patient of Pemphigus vulgaris: a) flaccid blisters and crusted erosions on limbs, b and c) histopathology showing suprabasal split in epidermis containing acantholytic cells and tombstoning of basal layer cells.)

Table-1: Clinicopathological concordance of cases.

Factors	No of Case	Percentage (%)
Descriptive pathological diagnosis favoring primary clinical diagnosis	152	22.7%
Definite pathological diagnosis consistent with primaryclinical diagnosis	158	23.6%
Definite pathological diagnosis consistent with one of the clinical diagnosis other than primary	154	23%
Definite pathological diagnosis not consistent with the clinical diagnosis	150	22.4%
Inadequate biopsy	55	8.2%

Discussion

After Dermatological disorders, whether acute or chronic have significant cosmetic and psychosocial impact on patient's life.[6] We as dermatologists have an edge over other clinicians that we can see the disease and reach a conclusion. However, many at times diseases mimic each other so much that supportive tools like histopathology and immunofluorescence are required to provide accurate diagnoses to patients. This clinico-pathological correlation helps us in understanding patterns of diseases in a better way.[7] Therefore, to assess the degree of this concordance we conducted this study over 2 years, as no such study has been conducted on this subject in our part of the world. According to this study, clinicopathological concordance was observed in 69.35% of cases. Narang et al[8] reported this correlation in 44% of the cases while Goyal et al[9] reported a consistence of 63%. Haugstved T et al[10] also conducted a study in non-neoplastic skin biopsies and found correlation in 57.5% cases. Factors responsible for low clinicopathological concordance in dermatological diseases have been evaluated in various studies. These include lack of adequate clinical history in the biopsy forms, inadequate biopsy samples and overlap

Between the histopathological findings of several dermatoses. Diagnostic yield of biopsies can be increased by appropriate choice of the lesion, biopsy technique and providing sufficient clinical infor- mation. Defective tissue fixation and processing, improper staining or lack of cooperation between the dermatologist and the dermatopathologist, may lead to poor outcome.[11-15] Another study reported that the rate of correct diagnosis without clinical information was 53%, however, the same rate was 78% after having the clinical information.[16] At times, repeated biopsies are needed for accurate diagnosis. Biopsy shouldbe compared with the previous one in repeated biopsies.[17]Retrospective nature of study and lack of facilities of immunofluorescence were the limitation of this study. Better cooperation and commun-ication between the dermatologists and the pathologists would have given us more definite diagnoses. Further studies can be planned to determine disease specific concordance.

Conclusion

Clinicopathological correlation is of immense importance in diagnosing various skin conditions. Providing adequate clinical information in the biopsy form along with interdepartmental cooperation between the clinical dermatologists and the reporting pathologists would lead to increased probability of a correct and definitive diagnosis.

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