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### A COMPARISON BETWEEN PATIENT COMPLAINS AND SIGNS TO THE HISTOPATHOLOGICAL FINDINGS OF PULPAL CONDITIONS

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#### ABSTRACT

The sensitivity and specificity of each complaint and sign and the characteristics of pain that are associated with reversible and irreversible pulp states are different. Pulp specimens were processed and the histo-pathologic diagnoses were categorized and correlated with the patient's complaints. Around 100 patients were selected for this study. It was found that patient complains and signs were similar to the histo-pathological findings of pulpal conditions and so the clinicians must consider the sensitivity of patient complaints and signs in order to reach a diagnosis based upon clinical evidence.

**Key Words:** Reversible, Irreversible, Pulp etc.

#### INTRODUCTION

The dentist is generally unable to make an accurate pathologic diagnosis of the state of the pulp because accurate pathologic diagnoses can be made only from examinations of histological sections of the involved pulp tissue [1]. Although in the past pulp diseases have been classified on a clinical basis by the use of histological terms, the futility of attempting to mix clinical and histo-pathologic classifications has been demonstrated by many authors. However, the histological status of the pulp is the main factor that the dentist must consider when making a decision as to whether vital pulp therapy is likely to be successful or whether endodontic treatment or extraction is indicated. Studies have shown the correlation between the histo-pathologic status of the pulp and subjective symptoms, past dental history and objective findings. The results of these studies provide data that allow the clinician to make an educated guess about the histological status of the pulp from patient complaints, electric pulp tests, thermal tests and radiographic findings. Histo-pathologic diagnoses of the pulp status were first categorized by

Seltzer and Bender [2]. The first four pulp states were considered by Seltzer and Bender to be reversible pulpitis and treatment along conservative lines should be directed toward pulp conservation and rest as irreversible and require endodontic treatment or extraction [3]. The purpose of the study was to determine the correlation between the findings of histo-pathologic examination of pulp specimens and patient complaints and signs in order to determine the sensitivity, specificity and reliability of complaints and signs and the characteristics of pain associated with reversible and irreversible pulpal conditions [4].

#### MATERIALS AND METHODS

Around 100 participants were selected for the study. Written concern was taken from each one of them. Pulp specimens were obtained from teeth that required endodontic treatment. Clinical data like previous pain history, previous injury history, type of pain etc were recorded to identify the patient's complaints. Pain on cold, hot or sweet stimuli only was assessed as present when pain was maintained after removing the stimulus. Under local anesthesia and sterile conditions, the pulps were removed from the teeth using a short barbed broach and immediately washed with physiologic saline solution and stored for further use. The histo-pathologic diagnoses of pulp status were categorized according to the criteria of Seltzer and Bender. The patient's complaints were

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correlated with the histo-pathologic diagnoses. Data was further analyzed for result.

## RESULTS

It was found that the patient complains and signs have a correlation to the histo-pathological findings of pulpal

conditions and the signs and symptoms should not be neglected. The results are tabulated as per the frequency of tooth affected and the findings in the histo-pathological specimens as follows:

**Table 1. The Frequency in Which the Type of Tooth Was Affected**

Type of Tooth Affected	Frequency (%)
Upper Incisors	7
Lower Incisors	10
Upper Canines	9
Lower Canines	13
Upper Premolars	12
Lower Premolars	14
Upper Molars	16
Lower Molars	19

**Table 2. Histopathological Diagnoses of Pulp Specimens**

Diagnosis	Frequency (%)
Intact Un-inflamed Pulp	0
Atrophic Pulp	16
Acute Pulpitis	20
Transitional Stage	21
Chronic Pulpitis	27
Total Pulp Necrosis	12
Acute Pulpitis Superimposed on A Chronic Pulpitis	4

## DISCUSSION

The characteristics of pain that are associated with reversible and irreversible pulp states are always different. Seltzer and Bender classified pulpal diseases, differentiating between irreversible pulpal states and reversible pulpal states [5]. Pain is the main complaint in patients with an irreversible pulpal condition. Seltzer stated that in the pulps of most teeth with deep carious lesions, chronic inflammatory cells are found scattered throughout the portion of the pulp under the affected dentinal tubules, but inflammatory cells are not present in sufficient quantities to be regarded as inflammatory exudate [6]. This was named the transitional stage, which has been considered a treatable pulpal state. Various authors have failed to reveal any correlation between specific pain characteristics such as sharp, dull, intermittent, continuous, throbbing or diffuse pain and histo-pathologic status of the pulp [7]. However, the presence of previous pain, the spontaneity of pain and the stimuli that provoked the pain can be considered symptoms that indicate the pulpal

condition. Bender found that 84.6% of pulps from patients who reported spontaneous pain correlated with untreatable pulpal states [8]. Only 4.8% of pulps from patients with treatable pulpal states presented with spontaneous pain. The clinician that makes a decision on the basis of the presence of spontaneous pain has only a 15% probability of making an erroneous decision [9]. The other patient complaints, such as pain on lying down, on eating sweet or sour foods, on tissue palpation or on percussion appear to be more frequently associated with teeth with pathological pulpal states [10].

## CONCLUSIONS

Pulpal status cannot be judged only on the basis of pain but still it can be used as a guide, together with other signs and symptoms. We should consider the sensitivity and specificity of each of the patient's complaints and signs to perform a diagnosis based upon clinical evidence to provide a better treatment and patient satisfaction.

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