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ORAL MANIFESTATIONS IN HYPERTENSIVE PATIENTS- A CLINICAL STUDY.

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ABSTRACT:

Hypertension is a frequently encountered disease among dental patients. Hypertension is still a major risk factor for both cardio vascular and cerebro vascular diseases. The aim of the study find the nature of the oral manifestations in hypertensive patients presenting with dental ailments at Saveetha Dental college and hospitals. The study sample consists of 100 patients of ages above 40 years, who are both diagnosed with hypertension and also patients who are undiagnosed with any medical illness. All patients were from different socio-economic status. Periodontic pockets was assessed by using a William's periodontal probe, mouth mirror, and Russell's periodontal probe was used to asses the periodontal and gingival health of the patient. Oral changes mainly observed were gingivitis, periodontitis, lichenoid reactions, gingival hyperplasia, hyposalivation and facial nerve paralysis. Hyposalivation was noted by asking questions to the patient. Blood pressure was assessed by using an automated sphygmomanometer. Assessment of the patient's blood pressure status by recording the patient's systolic and diastolic blood pressure using an automatic sphygmomanometer is done. The periodontal status along with other oral manifestations like gingival bleeding, lichenoid reactions, and hyposalivation were also done. There is an increase in the number of patients seeking dental treatment with previously undiagnosed medical illness. In India, the prevalence of hypertension is about 60% and 36% in the urban and rural population respectively. An early diagnosis can aid in achieving a better medical and dental treatment for the patient.

KEYWORDS: *Hypertension, gingivitis, periodontitis, gingival bleeding, Gingival inflammation.*

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I. INTRODUCTION:

Hypertension is a frequently encountered disease among dental patients. Hypertension is still a major risk factor for both cardio vascular and cerebro vascular diseases. A patient is suspected of having hypertension, if the Systolic blood pressure is greater than 140mmHg and or if the diastolic blood pressure is greater than 90 mm Hg. Hypertension may be primary or secondary. In more than 95% of cases, the underlying cause of hypertension cannot be found, this is called as "essential hypertension". Many factors like renal dysfunction, peripheral vascular resistance, endothelial dysfunction, insulin resistance and humeral factors contribute to essential hypertension.

Hypertension is more common in some ethnic groups like African-Americans, and Japanese. Secondary hypertension is caused by alcohol consumption, obesity, pregnancy, renal and endocrine diseases. Intake of drugs like oral contraceptives can also cause secondary hypertension. Dental disease has often oral manifestations of acute, chronic and systemic disease. Studies have indicated that, afflictions such as heart diseases, diabetes, stroke, hypertension, multiple sclerosis and HIV/AIDS often can be discovered during a routine visit to the dentist. Periodontal disease in an expected mother has been identified as one of the signs that an infant will be born prematurely or at a low birth weight. People with periodontal disease may be at a greater risk of heart attack or stroke. Recent studies have shown that the inflammatory effect of periodontal disease helps in promoting blood clot formation in arteries.

Dentists have a rare opportunity to detect cases of hypertension It is a professional responsibility of a dentist to inform the patient of their hypertensive state and to offer medical advise including appropriate referrals. There are no recognised oral manifestations of hypertension, but most of them are caused as side effects to the anti hypertensive drugs, such as gingival hyperplasia, xerostomia, periodontitis, gingivitis, alteration in taste. Recent studies have shown that the inflammatory effects of periodontal disease promotes in blood clot formation. The main aim of this clinical study is maimed at finding oral manifestations of hypertension.

II. Materials and methods:

Ethicalstatement: A written consent was obtained from all patients who have agreed to participate in this clinical study.

Participants: The study sample consists of 100 patients of ages above 40 years, who are both diagnosed with hypertension and also patients who are undiagnosed with any medical illness. All patients were from different socio-economic status.

Evaluation: Periodontic pockets was assessed by using a William's periodontal probe, mouth mirror, and Russell's periodontal probe was used to asses the periodontal and gingival health of the patient. Oral changes mainly observed were gingivitis, periodontitis, lichenoid reactions, gingival hyperplasia, hypo salivation and facial nerve paralysis. Hypo salivation was noted by asking questions to the patient. Blood pressure was assessed by using an automated sphygmomanometer.

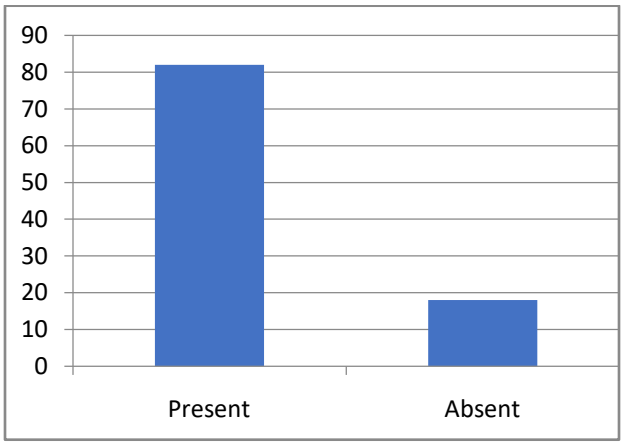
Questions asked to the patients to evaluate hypo salivation:

An affirmative response to at least two of these questions were considered as hypo salivation;

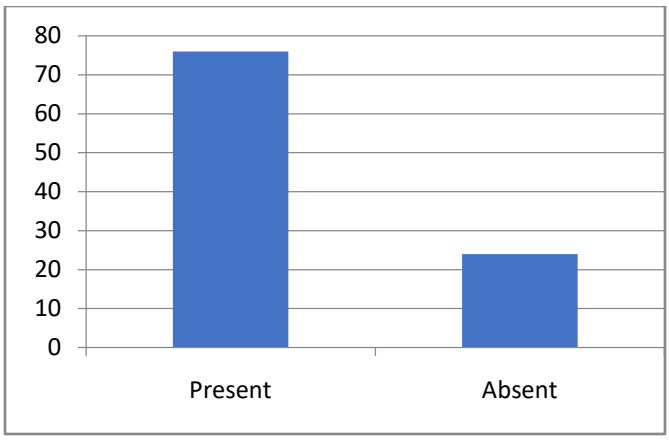
1) Does your mouth usually feel dry?
2) Does your mouth feel dry while eating a meal?
3) Do you have difficulty swallowing dry food?
4) Do you often sip water while swallowing dry foods?
5) Is the amount of saliva in your mouth too little, or don't you notice it? [1]

III. RESULTS:

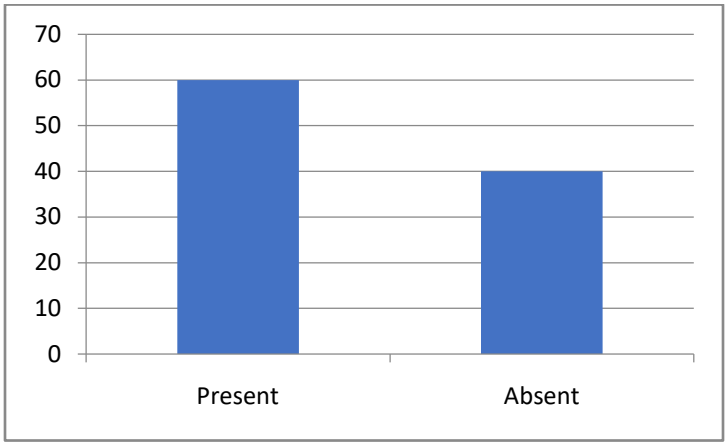
I) Gingival bleeding:



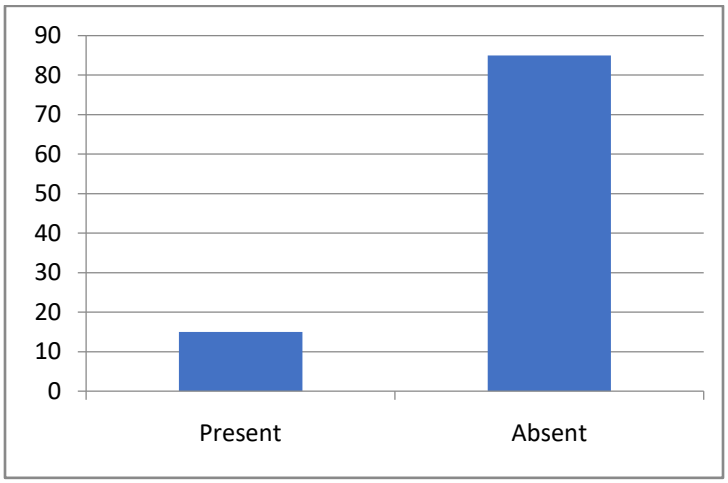
II) Gingivitis:



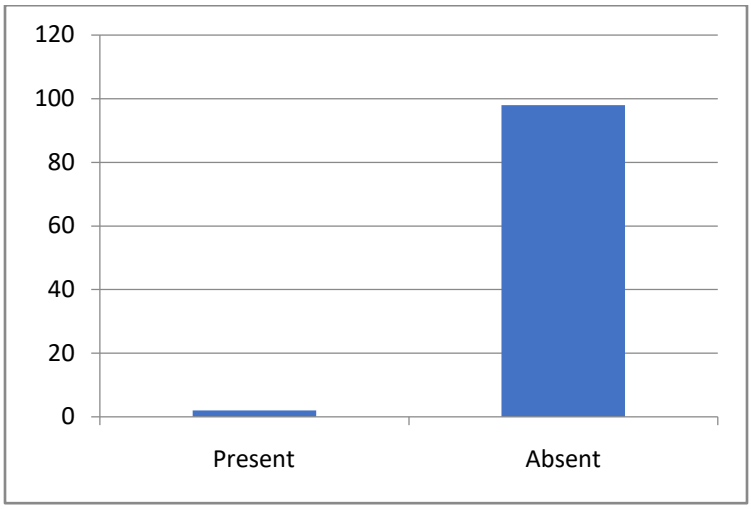
III) Periodontitis:



IV) Hyposalivation:



V) Lichenoid reactions:



IV. DISCUSSION:

In this present study 82% of the patient had gingival bleeding (Table 1). 76% of the patients presented with gingivitis [gingival inflammation] while 60% of the patients had periodontitis. Only 2% of the patients showed signs of lichenoid reactions (Table 5). In order to find out whether the patient has hyposalivation a series of questions were asked. An affirmative response to at least two of these questions were considered as hypo salivation;

1) Does your mouth usually feel dry?
2) Does your mouth feel dry while eating a meal?
3) Do you have difficulty swallowing dry food?
4) Do you often sip water while swallowing dry foods?
5) Is the amount of saliva in your mouth too little, or don't you notice it?

According to this about 15% of the patients had hyposalivation. [1]

Hypertension (HTN) or high blood pressure,is a chronic medical condition in which the blood pressure in the arteries is elevated. This requires the heart to work harder than normal to circulate blood through the blood vessels. The following table shows the different blood pressure values: [4]

NORMAL BLOOD PRESSURE: 120/80mm Hg(Systolic/Diastolic)

Grade	Systolic BP (mm/Hg)	Diastolic BP (mm/Hg)
Grade 1 (mild HT)	**140-159**	**90-99**
Grade 2 (moderate HT)	**160-179**	**100-109**
Grade3 (severe HT)	**>180**	**>110**

Hypo salivation was also found as one of the clinical manifestations in hypertensive patients. Gingivitis and periodontitis were most commonly seen clinical manifestations along with gingival bleeding in hypertensive patients[1,3] Lichen planus or lichenoid reactions are linear striations seen on the buccal mucosa that occurs bilaterally and most commonly in the posterior regions as a side effect to anti hypertensive drugs especially when the patient is consuming ACE inhibitors. [5]

Facial nerve paralysis most commonly occurs due to oedema or haemorrhage in the facial canal. The aetiology of facial nerve paralysis is still unknown. Although facial nerve analysis is often associated with malignant hypertension.[3]

Gingival enlargement is also one of the most common clinical finding in patients with hypertension taking antihypertensive medication especially calcium channel blockers. Gingival enlargements appear clinically as firm nodules of gingival overgrowth seen on either buccal or facial aspects and lingual or palatal aspects of the marginal gingiva. Sometimes the swelling may be present on the entire crown causing difficulty in eating. The drugs, causing gingival enlargement are nifedipine and amelodipin. [1,6]

In the present study, the oral manifestations of hypertension were evaluated. A wide variety of oral manifestations could be seen in patients with cardiovascular diseases. Most of the manifestations were a side effect due to the medication used by the patients with hypertension like xerostomia, lichenoid reactions, burning mouth sensation, stomatitis.

Gingival bleeding was the most common clinical manifestation seen, which was similar to the results obtained by Prashanth kumar[1]. Patients showed a Russels Periodontal index of 0.7-2.0 which coincided to the results obtained by Prashanth kumar and Mailboridin *et al*[2].

V. CONCLUSION:

A significant amount of patients visiting dental clinics are hypertensive or they lack awareness about their undiagnosed medical illness. A thorough medical examination must be done for patients with increased blood pressure levels. Mucosal changes were mostly a manifestation to anti hypertensive drug therapy. Before any dental treatment the patient must be deemed fit by a physician to avoid any complications in the dental chair. This helps in providing the best treatment possible for the patient.

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