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ORAL MANIFESTATIONS IN PATIENTS WITH LIVER DISEASES A PROSPECTIVE OBSERVATIONAL STUDY AT A TERTIARY HEALTH CARE CENTER IN INDIA

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ABSTRACT

Background: Liver is a vital organ. It serves the function of metabolizing drugs and most substances consumed by us. Liver also is the site of synthesis of various clotting factors. Liver maybe affected by a variety of conditions such as Hepatitis, Jaundice, Cirrhosis, Hepatocellular carcinoma and liver failure. Diseases of the liver also affects the appetite, digestion and immunity of the entire body. Oral health may also be adversely affected due to various liver diseases. This study was done to assess whether there are any oral manifestations which may be seen in patients with liver diseases. **Aim**: To study the association of oral manifestations in patients with liver diseases. **Materials and methods**: A non randomized observational study was carried out by us in 50 patients with liver diseases to identify the oral manifestations present in the patients with liver diseases. **Results**: Our study group comprised of 5patients with hepato cellular jaundice, 1patient with liver abscess and 44 patients with hepatitis. Oral lichen planus was seen in 2 patients, 4 patients had oral sub mucous fibrosis, 10patients had glossitis, 2patients had angular cheilitis, 3patients had taste alterations, 1 patient had petechiae in the oral cavity.

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INTRODUCTION

Liver is the second largest organ in our body and has abilities of regeneration upon injury or inflammation. However, it is vulnerable to various diseases upon chronic alcohol abuse, causing extensive damage to it and even leading to death of an individual (Balachander, 2014). Liver diseases can be classified as acute or chronic and infectious or non-infectious, ranging from fatty liver to hepatocellular carcinoma or cancer (Marta Cruz-Pamplona, 2011). Oral cavity is also adversely affected showing various manifestations in individuals with these liver diseases comprising of bacterial and fungal infections such as dental caries, periodontitis, candidiasis and potentially malignant conditions such as lichen planus etc (Novacek, 1995). Cirrhotic patients may have thrombocytopenia due to hypersplenism or treatment with interferon (Mason *et al*., 1999).

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In patients with liver disease, the resultant impaired hemostasis can be manifested in the mouth as petechiae or excessive gingival bleeding with minor trauma. This is especially suggestive if it occurs in the absence of inflammation (Mason *et al*., 1999). The most important and frequent problems associated with hepatitis B and C in dental settings include the risk of viral contagion on the part of dental professionals and rest of patients (cross-infection), the risk of bleeding in patients with serious liver disease, and alterations in the metabolism of certain drugs that increases the risk of toxicity (Grau-Garcia-Moreno, 2003).

Aim: To study the incidence & type of oral manifestations in chronic liver disease pts in a tertiary care hospital.

MATERIALS AND METHODS

After hospital ethical committee approval and informed written consent from the patients, we conducted a non randomized prospective observational study in 50 patients with chronic liver diseases of various etiologies and documented the associated oral manifestations.

Table 1. Lesions Observed in the Oral Cavity in Association with Various Liver Pathologies

Oral lesion (Total no, %)	Hepatitis B n=16(32%)	Hepatitis C n=14(28%)	Alcoholic liver disease n=20(40%)
Caries (28, 56%)	12	4	12
CGP (20, 40%)	4	2	14
Glossitis (17, 34%)	7	3	7
Xerostomia (10, 20%)	2	1	7
Fissured tongue (7, 14%)	3	1	3
OSMF (5, 10%)	1	1	3
Altered taste (5, 10%)	2	1	7
Atrophic Tongue (5, 10%)	1	1	3
Lichen planus (3, 6%)	1	0	2

(CGP=Chronic Generalized Periodontitis, OSMF=Oral Submucous Fibrosis)

The demographic data and diagnosis of liver disease were collected from the patients case record. Under strict universal precautions the oral cavity is examined using mouth mirror and the probe. Any active bleeding in the oral cavity if present was documented before proceeding with examination. Detailed clinical examination of oral cavity starting with teeth, gums, labial mucosa, buccal mucosa of both the jaws and palates was performed and the lesions were noted.

RESULTS

Demographic data and diagnosis of liver disease along with associated oral lesions were noted. A total of 50 patients with liver disease were taken up for the study which comprised of 39 male patients and 11 female patients with a mean age of around 45 yrs. Of the total 50 patients, the spectrum of liver diseases was as follows: Alcoholic Hepatitis was seen in 20 patients (40%), Hepatitis B was seen in 16 patients (32%), and Hepatitis C was seen in 14 patients (28%). In our study we found dental caries was the most prevalent disease which was observed in 28 patients(56%) followed by chronic generalized Periodontitis in 20 patients (40%), Glossitis in 17 patients (34%), Xerostomia in 10 patients (20%), Fissured Tongue in 7 patients (14%), Altered taste sensation in 5 patients (10%), Atrophic Tongue in 5 patients (10%), Oral Sub Mucous Fibrosis in 5 patients (10%) and Oral Lichen planus in 3patients(6%).

DISCUSSION

It is important that healthcare personnel in general, and in particular, general medicine specialists, gastroenterologists and hepatologists should be aware of the oral health problems which maybe faced by the patients with liver disease in clinical practice. Similarly it is also important for oral healthcare personnel to be aware of the oral manifestations likely to be seen in liver disease patients and precautions needed to be taken during their dental management especially in view of the fact that there maybe impaired hemostasis in these patients apart from altered drug metabolism which may necessitate alterations in their dosage to prevent drug toxicities. A thorough medical and dental history would be thus mandated regarding hepatitis, jaundice, cancer, autoimmune disorders, HIV/AIDS, surgeries, family history, medications, alcohol intake, recreational drug usage and bleeding tendencies (Greenwood, 2003). Vladimir Panov *et al*. (2011) studied 25 patients of chronic liver disease for oral health status, they found dental caries was frequently found in association with chronic liver disease patients compared to the healthy control group. Although in our study, we did not have acontrol group but we found dental caries as one of the frequent finding (56%).

In our study dental caries incidence was similar in both hepatitis B and Alcoholic liver disease patients but a little less in hepatitis C patients. The possible factors causing higher caries incidence in chronic liver disease patients could be due to the use of diuretics which may cause xerostomia, and altered oral microflora due to drugs like immuno suppressants and interferons commonly used in these patients (Liliane Elze Falco Lins Kusterer, 2011). In another study by Cringuta Paraschiv *et al*. (2011) 230 patients of chronic hepatitis C and 150 patients of chronic hepatitis B were investigated for oral manifestations and they found periodontal disease, gingival bleeding, dry mouth were frequent associations. In our study chronic generalized periodontitis (CGP) was the second most common finding seen in 20(40%) patients and was mostly associated with alcoholic liver disease(70%),we didn't come across any active gingival bleeding in our study group probably because the coagulation profiles were not severely altered. In aforementioned study they have found lichen planus was more frequently seen in hepatitis C patients, even though we have seen very less incidence of lichen lanus (6%). We did not find any association between hepatitis C and lichen planus in our study probably because of difference in genetic profiles between patients in our study group and their study group. Karin Soares, Goncalves Cunha *et al*. (2005) studied incidence of oral lichen planus in Brazilian patients infected with hepatitis C patients and they found no significance in association compared to the control group. We observed a higher incidence of oral conditions in alcoholic liver diseases group in our study, probably due to slightly larger number of patients in this group than in other 2 groups. Xerostomia was seen in 20% of patients. Other less frequent associated oral conditions seen in our study group were fissured tongue (7%), altered taste(5%),atrophic tongue(5%) , oral sub mucous fibrosis(OSMF) (5%) which have also been cited in some other studies.

Conclusion

Liver maybe affected due to chronic usage of drugs like paracetamol, over usage of alcohol and viral hepatitis. Oral changes like altered taste sensation, xerostomia, dental caries, gingival bleeding may affect the quality of life of these patients. Careful examination of the oral cavity in the patients with chronic liver disease to identify and treat oral manifestations in their early stages will prevent further complications and help to improve quality of life in these patients.

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