

## ORAL MANIFESTATIONS OF HEPATITIS C VIRUS

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### SUMMARY:

Hepatitis C virus (HCV) infection is a serious public health problem. New infections continue to occur, and morbidity and mortality are increasing. The date reported that 3% of infected world populations are affected.

Morbidity associated with hepatitis C virus infection can involve a variety of extrahepatic conditions including the oral region. Some of the oral manifestation are oral disease like lichen planus and Sjögren-like sialadenitis, other affects the dental status, and side effect of the virus therapy. The aim of this review is to summarize the oral sings, accompanying hepatitis c virus.

**Key words:** hepatitis C, oral manifestation

### INTRODUCTION:

Hepatitis C virus (HCV) infection is widespread with an estimated 3% of infected world population. Acute infection is usually mild but chronicity develops in as many as 80% of patients, of whom at least 20% will eventually develop cirrhosis. Morbidity associated with HCV infection is due not only to the sequelae of chronic liver disease, but also to a variety of extraheaptic manifestations (EHM) in 74% of all HCV-infected individuals. Some of the most frequently reported EHM of HCV infection involves the oral region predominantly or exclusively (12).

### Uncommon oral signs

The oral cavity can reflect liver dysfunction in the form of mucosal membrane jaundice, bleeding disorders, petechiae, increased vulnerability to bruising, gingivitis, gingival bleeding (even in response to minimum trauma), foetor hepaticus (a characteristic odor of advanced liver disease), cheilitis, smooth and atrophic tongue, xerostomia, bruxism, crusted perioral rash, oral soreness (11). All of these reported manifestation and symptoms are uncommon oral signs and can be seen also in other systemic disease.

### Dental Complications

The date according dental status reveal that people with hepatitis C are prone to tooth decay, suffer loss of self-esteem due to poor oral aesthetics and have difficulty with diet due to poor oral health, all leading to a compromised quality of life (4, 11).

The DMFT index differed significantly between hepatitis C and general patients. The number of decayed and missing teeth was greater in those infected with hepatitis C for all patients aged between 25 and 50 years. Although there was no significant difference in CPITN categories for subjects evaluated, a marked trend for poor periodontal health was noted for those individuals with hepatitis C. Social impact was significantly affected with 71 per cent of hepatitis C subjects reporting painful aching in the mouth and 56 per cent having difficulty in relaxing (4).

Cases with periodontal disease showed higher percentages of hepatitis exposure (hepex; anti HCV and/or anti HBc) and significantly higher anti HCV seropositivity than the controls (26% and 13% versus 22% and 8%, respectively). Furthermore, cases with periodontal disease showed higher detectability rate of HBsAg, anti HBc, anti HCV or both anti HCV and/or anti HBc in whole unstimulated saliva than the controls (100% vs 66.7%, 50% vs 23.5%, 23.1% vs 0.0% and 42.3% vs 18.2%, respectively). Periodontal disease, severity of bleeding and bad oral hygiene were associated with the risk of hepatitis infection and with the detectability of hepatitis markers in the whole saliva (6).

### Lichen Planus

Lichen planus (LP) is a chronic mucocutaneous disease more commonly seen in middle-aged women and affecting up to 1-2% of the population. There is some evidence of an association between HCV and oral lichen planus (OLP); however, this varies by region. OLP is often bilateral and typically presents as a mixture of clinical subtypes that characteristically bear fine white striations known as Wickham's striae(1). Epidemiological data suggest that LP may be significantly associated with HCV infection, mainly in Southern Europe and Japan (3).

The reticular form has a lacy pattern of white lines while the papular type consists of small raised areas. The plaque-like variant appears similar to a leukoplakia. The atrophic form presents with erythematous patches. The erosive variant appears deep red in colour while the ulcerative type appears as irregular and often large ulcerations. Bullous type is extremely rare and often presents as either erosive or ulcerative due to ruptured bullae. If affected on the gingivae, it often appears as erythematous and is called desquamative gingivitis. HCV seropositivity in the OLP patients was

significantly higher than in the healthy blood donors (15).

However, no relation was found between this association and a specific clinical form of the disease. Due to the higher occurrence of HCV seropositivity in OLP patients, it is suggested that all Israeli patients diagnosed with OLP be regularly screened for HCV antibodies (15). Common symptoms are of burning or oral pain, especially with acidic or spicy foods. Symptoms are often irrespective of the clinical presentation(1). A possible link between hepatitis viruses and LP has been suggested by the fact that LP has been frequently associated with chronic liver disease (CLD) in Mediterranean but not in northern European patients (3).

### **Sjogren's Syndrome, Sjögren-like Sialadenitis**

It is known that HCV affects the salivary glands but the exact nature of this effect is yet to be fully understood. Hepatitis C virus is thought to cause a syndrome with features similar to Sjogren's Syndrome (SS) in a proportion of infected individuals. It has been proposed HCV may lead to the development of SS; however, this link is contentious (2).

It is unclear if the virus may cause a disease mimicking primary SS or if HCV is directly responsible for the development of SS in a specific subset of patients. Notably, some patients may present a triple association between HCV, SS-like sialadenitis and SG lymphoma and the virus may be involved in the lymphomagenesis. The risk of having a NHL is particularly high in patients with MC. Little attention has been paid to the effects of anti-HCV treatment on sialadenitis or lymphoma development and specific trials are clearly warranted (2).

### **Xerostomia**

Studies have shown that there is an increased incidence of dry mouth in patients with HCV infection, especially those patients on antidepressants, in addition to the known effects of HCV on salivary glands. Saliva has many roles including: lubrication, cleaning, buffering, remineralisation, moisturising, immunological defence against bacteria and initiation of digestion (2).

Salivary depletion may result in: dental caries, altered taste, burning sensation in the mouth, candidiasis, halitosis, difficulty chewing, swallowing and talking, difficulty wearing dentures, dry mouth and lips, sialadenitis. Salivary flow was reduced in 50 per cent of hepatitis C infected subjects (1).

### **Oral carcinoma**

An increased prevalence of HCV infection in patients with oral squamous cell carcinoma (SCC) was reported in 1995(9). Recently, an uncontrolled study from USA reported that 21% of 99 patients with head and neck SCC had HCV infection (10) although HCV did not affect patients' disease-free survival (7). In another study from Japan evaluating the prevalence of HCV in a large population requiring oral surgery, the authors found an increased frequency of HCV

antibody in patients with oral cancer, but this difference disappeared when the data were adjusted for age(14). Oral verrucous and squamous cell carcinomas have been reported in HCV infected patients with OLP (3, 9) and positive and negative HCV-RNA strands have been detected both in oral cancer tissues (9).

However, HCV is a common cause of liver cirrhosis which may represent itself an independent risk factor for the development of oral cancer (13). On the other hand, potentially oral premalignant lesions such as leukoplakia and oral epithelial dysplasia are not associated with HCV infection (3, 8). Data suggest that HCV but not HBV infection is a risk factor for oral cavity cancer

### **Side Effects of HCV Treatment**

HCV treatment is generally well tolerated. However, current therapy is associated with a range of side effects, which in some are severe enough to lead to treatment cessation. These include more commonly experienced side effects such as irritability, dermatitis skin, hair loss, anorexia, nausea, headaches, fever, myalgia, neutropaenia, thrombocytopaenia, and anaemia. Less common side effects include those such as psychiatric disorders, diabetes, and thyroid dysfunction (2).

Reported oral side effects after interferon and ribavirin treatment include gingival bleeding, gingival swelling, toothache, gingivitis, periodontitis, dental caries, cheilitis, taste changes, dry mouth, glossitis, glossalgia, perioral parasthesia, oral pain, oral mucosal damage, oral lichen planus, oral haemorrhage, dry lips and bulla of the lips (2).

Dentists should be aware that hyperpigmentation of the tongue can be obtained from the treatment of hepatitis C with interferon-alpha and ribavirin combination therapy (11).

### **Other diseases and variations of normality**

The exact way HCV infection leads to the development of lymphoma is not clear but multiple mechanisms have been reported. Two cases of pemphigus vulgaris and paraneoplastic associated with chronic HCV infection and involving the oral cavity have been published. The PV case was supposed to be caused by IFN therapy but this is a very rare occurrence according to the available data. The possibility that Behcet's disease is an HCV associated disorder was first suggested in 1995 (3). Leukoplakia was present in 28 cases from 215 patients with chronic hepatitis C (13%). Variations of normality were observed in 173 patients (80.5%). The most frequent variations of normality included Fordyce's spots in 96 cases (44.7%), lingual varicosities in 67 cases (31.2%), and fissured tongue in 60 cases (27.9%) (5).

### **CONCLUSION:**

Chronic hepatitis C virus can remain asymptomatic for a long time, but patients can present a number of extrahepatic manifestations such as those in the oral cavity. only the

association between oral lichen planus and hepatitis C showed statistical significance. Dentist has an active role in detecting infection with hepatitis C, efforts should be made to clarify the possible relation between oral conditions and HCV

infection. This may be helpful in the earlier diagnosis of the infection mainly in asymptomatic patients. On the other hand, given the risks, the dental treatment of patients with known chronic HCV liver disease raise special problems.

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