

Massive Oral Rehabilitation in HCV Patient in Treatment with Ribavirin and α -interferon

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ABSTRACT

The management of the patient with the liver chronic disease is today one of the mainly problems of medicine, especially when they have to undergo important oral rehabilitation. Until today, in most of the cases suffering this pathology, the best solution seems to be the hospitalization of the patient. The aim of our case report is to show that, with necessary precautions, it is possible to handle a heavy smoker patient suffering from hepatitis C, in treatment with Interferon alfa and ribavirin, also in a private structure, reducing the time of surgery and rehabilitating the patient just one time.

KEYWORDS: Dentistry, Dental Implant, HCV, Hepatitis C Virus, Oral Surgery

INTRODUCTION

It is well known that patients with hepatitis C are more susceptible to oral diseases, in particular dental caries, periodontal diseases, prolonged bleeding.^{1,2}

A possible source of HCV in saliva may include serum exudate, that is the gingival crevicular fluid and the migration of HCV-containing mononuclear cell from periodontal inflammation at the dentogingival interface into the salivary pool.³

HCV infection in the epithelial cells of the salivary glands is a factor associated with the development of sialadenitis and Sjogren's syndrome.⁴

Smoking causes a variety of adverse effects on organs that have no direct contact with the smoke itself such as the liver. It induces three major adverse effects on the liver: direct or indirect toxic effects, immunological effects and oncogenic effects.

- It has been reported that heavy smokers suffering from chronic hepatitis C tend to have a lower response rate to IFN therapy.⁵
- Eavy smoking increases hepatic iron overload which is involved in resistance to IFN.⁶
- Smoking induces pro-inflammatory cytokines (IL-1, IL-6, TNF- α) that mediate inflammation and steatosis.⁷
- Smoking directly modifies IFN- α -activated cell signaling and action.⁸

The oral rehabilitation of edentulous patients using implant-supported fixed prosthesis immediately loaded is a safe procedure with high predictability.⁹ Such treatment has the advantages of immediate restoration of function and aesthetics and emotional comfort to patients, especially in cases of dental extractions and immediate implant placement.¹⁰

The procedure can be performed directly in the mouth eliminating the possibility of errors or distortions due to impression.¹¹

It is important to remember that ribavirin commonly causes haemolytic anaemia, and it is teratogenic so is contraindicated in pregnancy. The IFN therapy produces a variety of well-described side effects like fatigue, influenza-like syndrome and neuropsychiatric symptoms.^{12,13}

CASE DESCRIPTION AND RESULTS

A 52-years old, male patient came to our clinic for an examination and his medical history revealed that he was suffering from hepatitis C (HCV).

First of all, it was done a periodontal package and salivary DNA-test. The result was a prevalence of *Aggregatibacter Actinomycetemcomitans* and *Tannerella forsythia*.

The patient started an antibiotic therapy three days before surgery, with cephalosporins (CEFIXIME 400 mg) because it has a prevalent kidney excretion for 90%. Simultaneously it was given vitamin-K (KONAKION 10 mg) in tablet form, for 7 days.

Anterior teeth of lower jaw were previously splinted (Fig 1). The orthopantomography showed periodontal teeth, so we extracted teeth 31,32,33,41,42,43 after injection of local anesthetic Articaine with adrenaline 1:100.000 (Fig 2).

After an abundant washing with betadine, we proceed with drilling and preparing the receiving site through

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Fig.1. Pre surgical RX



Fig.2. After extraction

dedicated bur from 1.8mm diameter, up to 2.5mm diameter.

So we went on to insert 4 implants (ADDENTA IL SLA NOBIL Portogruaro, Italy) (Fig 3). In site 43 and 33 implants 4.0x12, and in site 41 and 31 implants 3.2x12.

After insertion of the implants, it was measured their stability using OSSTELL (Osstell™)(Fig 4). In fact, resonance frequency analysis (RFA) by the use of piezoelectric transceivers allows a quantitative evaluation of the implant stability. Furthermore, this technique provides an indication of the right moment to perform functional loading. Stitches were applied using interrupted stitches in vicryl 3/0 (PGA Arago).

MUA (Multi-Unit-Abutment) were screwed to a high of 3 mm (Addenta IL, Italy), so it was then possible to connect the specific titanium abutment for electrofusion (Fig 5). The electrofusion was done with electro-welder (New Mondani, Italy).



Fig.3. Implant insertion



Fig.4. Frequency resonance with OSSTELL measurement



Fig.5. MUA fixation

Then, a bar of 2 mm was shaped and prepared directly in the mouth; the frame was welded intraorally in order to fix the position (Fig 6,7). The bar was removed from the mouth with the abutments, sandblasted and covered with opaque film. (OVS II Opaker, Dentsply).

After this, the bar was repositioned in situ and a temporary prosthesis was manufactured directly in mouth, polished and finally screwed (Fig 8).



Fig.6. The welding procedure

The patient was discharged with indications regarding the oral hygiene and the drugs therapy that he has to follow, consisting of antibiotic for seven days, analgesic (Ketoprofene, OKI), and hyaluronic acid jelly (AMINOGAM GEL, ERREKAPPA Farmaceutici), to be



Fig.7. The frame completed



Fig.8. The provisional in situ

applied into the mouth for not less than 20 days to improve healing of the gingiva.



Fig.9. The Structure

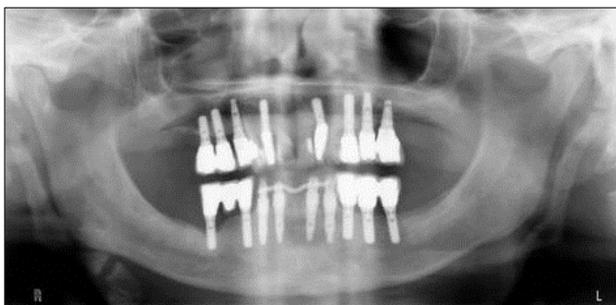


Fig.10. Post surgical RX

The patient was asked to carry out checks every 15 days and to inform us about possible problems or health changes. All controls were positive, so after 90 days from the surgery, definitive impressions were detected. It was built the definitive prosthesis made of metal-ceramic. The patient has been controlled several times and actually shows no problems (Fig 9-13).

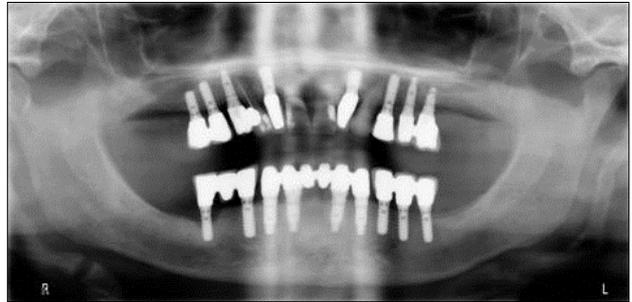


Fig.11. Final RX



Fig.12. The final result



Fig.13. The result after six months

CONCLUSION

It is important to show that with this technique and the necessary precautions, it is possible to deal with a HCV-patient who is taking interferon and ribavirin.

The possibility to immediately apply the masticatory load (in physiological occlusion, not in sub-occlusion) makes the monophasic technic a faster system in restoring the occlusion and so the health of the entire mouth.

The syncrystallization technique presents the advantage

of immediate restoration on the same day of surgery. For more, we approach with minimal invasiveness; in fact, no large surgical incisions were made. This fact may be significant for all patients, but especially in a patient with coagulation defects and delayed healing, affected probably even from liver cirrhosis, to heal first.

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