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Full Length Research Article

Twelve-year follow-up of a Treatment with Implant-Retained Dental Prostheses in a patient with Sjogren's syndrome: A clinical report

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ABSTRACT

This 12-year study evaluated the implant survival rate, prosthetic maintenance in a patient with sjogren syndrome who received implant supported prosthesis. A 58-year-old female with secondary sjogren syndrome was received 12 implants in both the maxilla and mandible. Panoramic radiographic was taken after implant placement. At 12years, all implants remained osseointegrated. Plaque index scores showed improvement in oral hygiene during the first year.
Conclusions: The 12-year study showed that, despite long-term use of corticoids, favorable implant survival rate can be achieved in patients with sjogren syndrome.

Key words: Dental Implants, Fixed Prosthesis, Implant-Supported Prosthesis, Osseointegration, Patient Satisfaction Sjögren Syndrome.

INTRODUCTION

sjogren syndrome is a chronic, systematic autoimmune disorder That mainly affects the lacrimal and salivary glands and leads to xerostomia and keratoconjunctivitis sicca (By Brad Neville *et al*., 2008; Fox *et al*., 1984). Although it may involve the skin and many organ systems (thyroid, lung, kidney, ect) and other mucosa (nose, trachea, vagina) (Martin Greenberg *et al*., 2008). When the condition happens without association with other autoimmune diseases, it is classified as primary sjogren syndrome. When it is in conjuction with other autoimmune disorders (rheumatoid arthritis, systemic lupus erythematosus), it is termed secondary sjogren syndrome (Yamamoto *et al*., 2003; Soto-Rojas *et al*., 2002). The involvement of salivary glands and consequently the deficient production of saliva in patients with sjogren syndrome affect their oral environment. Oral manifestations include xerostomia as a result of decreased salivary secretions, dry, dirty, erythematous tongue, rampant caries, enlarged salivary gland; increased incidence of candidiasis[3]. The xerostomia associated with sjogren syndrome causes severe difficulty wearing of removable dentures. In this situation, burning mucous membrane, oral infection and poor denture retention is often observed (Bertram *et al*., 1967; Scully *et al*., 1986; Vissink *et al*., 1986 and Daniels *et al*., 1992). The problems adversely affects patient quality of life (Candel-Marti *et al*., 2011). Few investigators have proposed that unpleasant feeling can decrease in prostheses with artificial l saliva reservoirs (Isidor *et al*., 1999). Some authors reported a high percentage of success in patients suffering from SS with implant-supported prostheses (Binon *et al*., 1993; Payne *et al*., 1997). The purpose of the present report is to evaluate the outcome of treatment with implant- retained prostheses with sjogren syndrome.

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METHOD AND MATERIALS

A 57-year-old woman was referred to the private office due to crown bridges loosen and multiple cervical caries in maxillary arch in November 2001. She had secondary sjogren syndrome over 9 years. She suffered from dry mouth and dry eyes and parotid swelling. The patient had experienced symptom of xerostomia and xerophthalmia when she was 20 years old (Fig 1). Although sjogren syndrome was diagnosed when a rheumatologist discovered rheumatoid arthritis. Also, the disease had involved lung. She has received symptomatic treatment (salivary substitutes, artificial tears) and systemic corticosteroids. She had edentulous mandible and seek implant treatment plane. A panoramic radiograghy was taken from the patient and availableteeth was extracted due to severe caries. 3months after tooth extraction, 6Straumann® implants were placed in each arch. Initial postoperative healing was uneventful. She did not use temporary prosthesis .No implants were lost during the healing period. Four months later, abutments were connected to the implants and a fixed supported prosthesis were constructed. The patient was seen on a regular recall basis, alternating 3-month in first year and then schedule changed to an alternating 6-month recall (Fig 2).

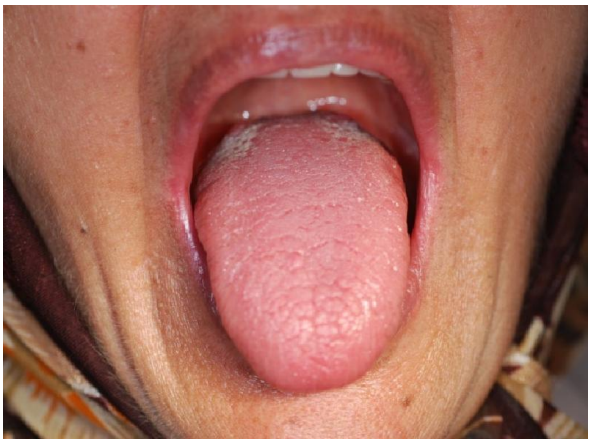

Fig. 1. Reddened and atrophic appearance of tongue due to chronic dry mouth condition

Fig. 2. Rehabilitation with maxillary and mandibular implant-retained fixed prosthesis

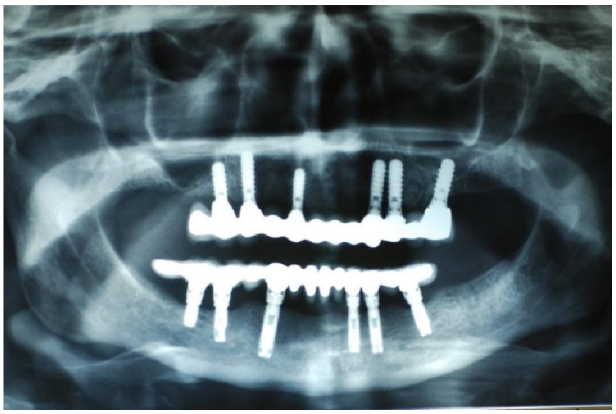

Fig. 3. Radiographs were made 6 years After reconstruction

RESULTS

A 57 year-old female with secondary sjogren syndrome was referred to our office because of the failled prosthesis in the maxillary arch. It was planned that each arch received 6 implants and a fixed prosthesis. All implants were found to be clinically osseointegrated at the abutment connection and during the prosthetic treatment period. The patient was given oral hygiene instructions. The patient satisfied with her prosthesis. Also, she reported favorable self-confident because she could chew all types of food and speech easily. Although dryness of the mouth or the eyes was present. In our case report, on the other hand, none of the implants has failed; neither during the recovery phase nor in the first year of loading. During the 12-year follow up, 3abutment screws became loose.

DISCUSSION

The significant oral problems of sjogren syndrome include xerostomia, buring oral mucosa, rampant caries, oral candidal infections[10]. Increasing rate of dental caries leads to need of oral rehabilitation appliances. Edentulous patients with sjogren syndrome often suffer from conventional removable dentures and may complain about reduced denture retention (Niedermeier *et al*., 1992) and buring mucosa (Bertram *et al*., 1967; Vissink *et al*., 1986 and By Brad Neville *et al*., 2008) Xerostomia predisposes the patient to candidal infection and difficulties on swallowing (Kamagata-Kiyoura *et al*., 2004; Logemann *et al*., 2003).

It seems that placement of implant-supported prostheses provide advantages for patient with sjogren syndrome (Niedermeier *et al*., 1992). However few investigations have yet been addressed on results of dental implants in patients with Sjögren syndrome and to some extent, the success rates of the implants varied. Binon (Binon *et al*., 1993) treated a sjogren syndrome´ patient with implant-retained fixed prosthesis. The implants and prosthesis have remained stable and without any complications after 13 years. Isidor *et al*.[11] showed lack of osteointegration in 7 of the 54 implants positioned in patient with sjogren syndrome and 2 implants lost during the following 2 years of loading. The patients reported considerably increased prosthetic comfort and function compared to the situation before treatment. Whereas in the study by Payne (Bertram *et al*., 1967), 26 implants were positioned in 3patients with sjogren syndrome. They found lack of osteointegration in 2implants at abutment connection and 1implant loss after 2years of function. Spinato *et al* (Payne *et al*., 1997) in a clinical report indicated that a patient with Sjogren syndrome was treated successfully with an implant-retained fixed prosthesis. Howbeit the case was followed only first year of loading. In our case report, on the other hand, none of the implants has failed; neither during the recovery phase nor in the first year of loading. In addition, no significant peri-implant bone loss has revealed radiographically.

It seems that prolonged use of corticosteroid may not affect the implants in this patient. Also some reported that systemic administrations of glucocorticoid are a relative contraindication to implant placement (Adell *et al*., 1992), but the effect has not been clearly demonstrated (Keller *et al*., 2004). In our case report, the patient declared comfort, satisfaction of function and esthetic with implant treatment. This is in agreement with other studies (Isidor *et al*., 1999; Binon *et al*., 1993). Even in patients whose present conditions precluded optimal number of implants, fabricated prosthesis improved patient satisfaction (Isidor *et al*., 1999). Although placement of oral implant in sjogren syndrome have been regarded as relative contraindications (Spiekermann *et al*., 1995) but some investigators reported favorable results of implant treatment with sjogren syndrome (Isidor *et al*., 1999; Binon *et al*., 1993; Payne *et al*., 1997; Payne *et al*., 1997; Spinato *et al*., 2010). The results of 12-year follow up in our

study demonstrated that oral rehabilitation with a fixed prosthesis in both arch over 6 Implants in sjogren patient had favorable survival rate.

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