**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, systemic 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 conjunction 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. 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 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.

**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 radiograph was taken from the patient and available teeth was extracted due to severe caries. 3 months after tooth extraction, Straumann® 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).
A 57 year-old female with secondary sjogren syndrome was referred to our office because of the failed 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-confidence 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, 3 abutment screws became loose.

DISCUSSION

The significant oral problems of sjogren syndrome include xerostomia, buring oral mucosa, rampant caries, oral candidal infections\(^\text{18}\). 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.\(^\text{11}\) 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 3 patients with sjogren syndrome. They found lack of osteointegration in 2 implants at abutment connection and 1 implant loss after 2 years of function. Spinato et al (Payne et al., 1997) in a clinical report indicated that a patient with Sjögren 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 prostheses 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

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

REFERENCES


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