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Contemporary management and complex dental treatments of a patient with Sjögren's disease: A 10-year follow-up

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Abstract

Sjögren's Disease (SD) is a chronic systemic autoimmune disease characterized by lymphocytic infiltration of the exocrine glands, primarily affecting the lacrimal and salivary glands. The etiology and pathophysiology of the disease remain unclear. Fatigue and weakness are among the most common systemic symptoms, alongside ocular and oral dryness. Reduced salivary flow leads to dry mouth and lips, erythema of the oral mucosa and tongue, burning sensations in the tongue, atrophy of the filiform papillae, fissured tongue, and loss of taste. Patients with SD often experience a higher prevalence of dental caries and early tooth loss, which significantly impairs their oral health-related quality of life. This case report presents the comprehensive dental management of a 32-year-old female patient with a history of chronic SD over a 10-year follow-up period. The patient was referred to our clinic with multiple dental complaints. Clinical and radiographic examinations revealed extensive carious lesions, periapical pathoses, periodontal problems, pronounced tooth sensitivity, and hyposalivation. For treatment, a combination of surgical (e.g., apical resection) and nonsurgical procedures, including coronal restorations, endodontic therapies, and prosthodontic rehabilitations, was performed. During the 10-year follow-up, the treated teeth remained asymptomatic, and radiographic evaluations showed complete healing of the lesions, with no need for additional surgical intervention.

Keywords: Sjögren's disease, caries, endodontics, prosthodontics, surgery, healing

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Introduction

Sjögren's disease (SD) is a chronic autoimmune condition characterized by lymphocytic infiltration of the exocrine glands, particularly the salivary and lacrimal glands, leading to oral and ocular dryness (1). Although SD can occur in individuals of any age or gender, it is most frequently diagnosed in middle-aged and elderly women, with a female-to-male ratio of approximately 9:1 (2).

SD has significant implications for oral health. Common clinical manifestations include xerostomia due to reduced salivary flow, chronically inflamed and irritated oral mucosa, swollen and firm salivary glands, an increased prevalence of chronic candidiasis, angular cheilitis, excessive plaque accumulation, altered taste perception, dysphagia, persistent mucosal discomfort, recurrent denture-related ulcers, difficulty in mastication, and reduced retention of mandibular dentures due to early tooth loss.

Furthermore, SD increases the risk of dental caries, often affecting areas that are typically resistant to decay, such as the cervical region and smooth surfaces. Due to their heightened susceptibility to caries, patients with SD frequently experience significantly impaired oral health and reduced quality of life compared to the general population (3-6). As a result, these oral manifestations substantially impact both the dental health and overall well-being of affected individuals (7).

This case report aimed to describe the complex dental management of a patient with SD over a 10-year period.

Case presentation

A 32-year-old female patient was referred to the Akdeniz University Faculty of Dentistry in July 2012 due to a detached ceramic bridge prosthesis in the right mandibular region. The medical history showed that the patient was diagnosed with SD. Intraoral and radiographic examination revealed the presence of numerous periapical lesions (#12, #37, #33, #32, #31, #41, #42, # 44, #47) and full-mouth ceramic bridge prosthesis (Figure 1). After clinical and radiographic examinations, root canal treatment was started for the teeth with periapical lesions in the Endodontic Department. In this process, the Prosthesis Department was consulted for the renewal of old cement-retained full-mouth ceramic bridge prostheses. Pre-existing bridge prostheses were removed, and root canal treatments of the teeth with deep caries requiring endodontic treatment (#13, #15) were performed. After the restoration of the patient's full mouth ceramic bridge prostheses, the first steps of the patient's treatment were completed. A follow-up appointment was planned.

In the follow-up appointment after 1-year, periapical healing was observed in teeth #41, #42, #44, #47, #31, and #37; however, in teeth #32 and #33, periapical healing was not significant (Fig. 2A)

In the following years, teeth #32 and #33 did not show any improvement in periapical healing (Fig. 2B). For this reason, the patient was referred to the oral and maxillofacial surgery department for apical surgery. After the apical resection procedure, retrograde filling was performed using mineral trioxide aggregate (MTA).

After 4 years of follow-up, endodontic treatment was applied to the symptomatic teeth #11 and #22. In addition, at the 5-year follow-up, tooth #47 was extracted because it became symptomatic. Due to the recurrence of the periapical lesion in tooth #44 during the 6-year follow-up, apical surgery was also performed on this tooth (Fig. 3A).

In the 10-year follow-up, the patient was asymptomatic, and no signs of infection were found in the radiographic evaluation (Fig. 3B).



Figure 1. Preoperative panoramic radiography.

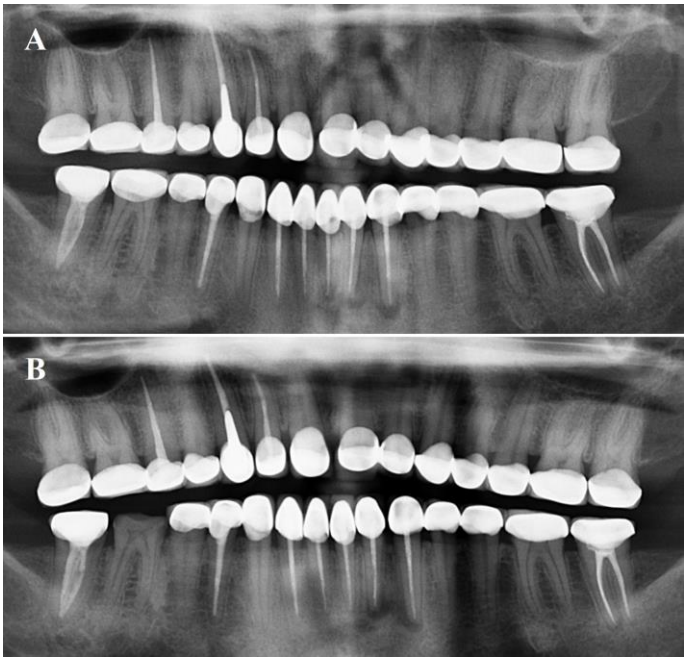


Figure 2. 1-year (A) and 2-year (B) follow-up panoramic radiography.

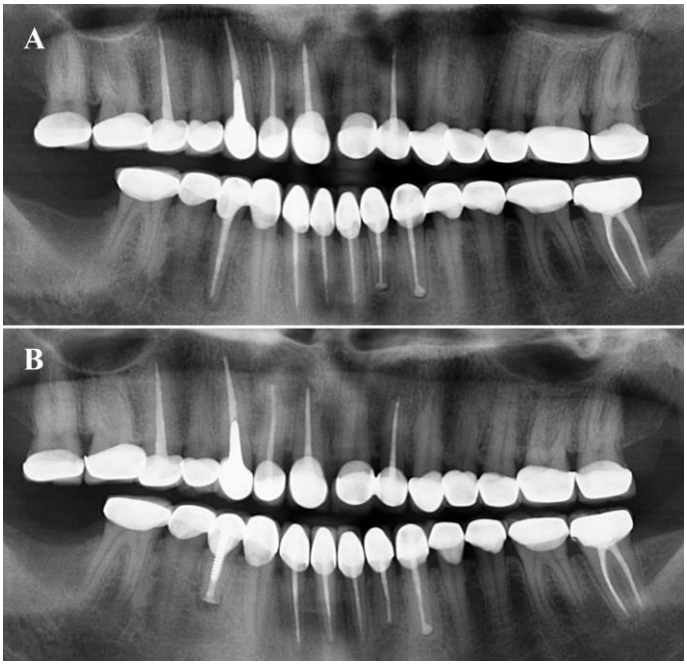


Figure 3. 6-year (A) and 10-year (B) follow-up panoramic radiography.

Discussion

This case report presents the endodontic, prosthetic, and surgical management of a young adult patient with SD, exhibiting multiple periapical lesions and complex oral manifestations. Generally, patients with SD have an increased risk of dental caries despite good oral hygiene. Dental caries accelerates due to decreased salivary flow rate, loss of antibacterial properties of saliva, and excessive intake of cariogenic foods (6, 8).

Conservative treatment options should be the first choice in these patients to prevent tooth loss and to provide better chewing, aesthetics, and function. Retention of removable dentures is reduced due to low salivation, which can cause traumatic ulcerations (9). A recent systematic review emphasized the critical role of saliva in the overall success and functionality of dental prostheses. Patients exhibiting symptoms of xerostomia demonstrated significantly compromised speech articulation, masticatory efficiency, and denture stability when compared to individuals with normal salivary function (10). Therefore, endodontic treatment was applied to teeth with large periapical lesions in this case to prevent teeth extractions.

Apical surgery is an important option for managing endodontic cases where conventional root canal treatment has not achieved a favorable outcome. Challenges such as complex root canal anatomy or technical mishaps may contribute to treatment failure. In situations where nonsurgical retreatment is contraindicated, poses considerable risks, or is not accepted by the patient, surgical intervention involving retrograde filling offers a viable strategy to retain the tooth. As residual bacteria can remain within the canal system and contribute to reinfection, achieving a hermetic and biologically compatible seal through retrograde obturation is essential for ensuring long-term therapeutic success (11, 12). So, in this case, apical surgery was performed on teeth #32, #33, and #44, no periapical healing was observed at follow-up appointments. And MTA, which is considered the gold standard with its excellent biological and chemical properties, was used as a retrograde filling material (13, 14). At the end of all procedures, satisfactory results were obtained both aesthetically and functionally.

Conclusion

Management of dental complications in patients with SD requires a multidisciplinary and individualized approach. In this case, coordinated endodontic, prosthodontic, and surgical treatments led to long-term functional and esthetic success. This report highlights the importance of collaborative care and long-term follow-up in achieving satisfactory outcomes in medically compromised patients.

Disclosures

Informed Consent: Written informed consent was obtained from the patient.

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