Prosthetic rehabilitation of a patient with scleroderma-induced microstomia

A clinical report

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Introduction

Scleroderma is a multi-system connective tissue disease that may induce facial region's bone resorption which hampers the normal mouth aperture. Nutrition and hygiene problems, with effects on the oral mucosa and dentition, often result. The limited mouth aperture complicates adequate dental treatment.

Objectives

A 50 year old female patient presented at the Faculty of Dentistry Timisoara, Departement of Prosthodontics with an advanced stage of scleroderma. She was completely edentulous at the maxilla and was asking for a complete denture. Clinical examination revealed a rigid face, with reduced vertical dimension of occlusion and severe skin and mucosal fibrosis. The muscular tonus was decreased, the cheek is in tension, the lips presented reduced mobility. (Fig.1) The hands presented typically deformation for these illness with presence of the Raynaud phenomenon, which causes locomotor handicap. (Fig.2) The maximum intercomisural diameter with open mouth was 38mm, and the amplitude of the opening was 18mm. (Fig.3) Intraoral examination revealed a ridge with average size and retentivity.
Material and Methods

After a rigorous clinical examination, the therapeutic decision was for a flexible maxillary complete denture, as a long lasting provisionally prosthetic solution. The preliminary impression was realized with a sectorial impression technique. A standard tray was used, which was sectioned in the middle with a disc (No 946.104 Komet, Brasseller, GmbH) and two alginate sectorial impressions (Palgaflex Kulzer) were taken. Afterwards the palatine vault was marked with putty silicone (Zetaplus-Zhermack). (Fig.4)

The preliminary impression required adjustments, after which the first individual tray was made. A fluid silicone (Oranwash-Zhermack) impression was taken, without being able to border molding. (Fig.5). The impression served to create a more adaptable individual tray of a smaller size. After the border molding and impression taking the final model was poured (Fig.6). The intermaxillary relationships were taken with occlusal rims only in the frontal area because the opposite arch was a shortened dental arch. The technical steps for the fabrication of the flexible complete denture were: the flasking and thermoplastic injecting, using the Injektor R3-C machine, and Flexite plus material from the Flexite Company (Fig.7, 8). The temperature regime was 238°C degrees for 20 minutes, and the injecting was for 3 seconds at 7,2atm. The flexible complete denture has a small flexibility degree but still allows insertion and removal with no difficulty into the oral cavity. (Fig.9) After the insertion of the complete denture, the facial appearance of the patient was considerably improved. (Fig.10). The patient was instructed to have regular follow-ups and to maintain her oral hygiene.
Results

After a 6 month period of accommodation, the patient was recalled in order to complete the long term prosthetic rehabilitation with a complete denture with metallic frame and hinge on the medial line. Unfortunately, because of the severe complications from the scleroderma, the patient was not able to complete the treatment.

Conclusions

Severe reduce of the oral cavity opening of the patients with systemic scleroderma is challenging for the prosthetic rehabilitation. This poster presented clinical and technical steps involved in fabrication of a flexible complete denture in case of a female patient with scleroderma induced microstomia.

Literature


This Poster was submitted by Anca Jivanescu, DMD, PhD Assistant Professor.
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Abstract:
The clinical and prosthetic steps involved in the fabrication of the flexible complete denture were specifically indicated because of the advanced stage of microstomia associated with systemic sclerosis in our case.

Introduction:
Scleroderma is a multi-system connective tissue disease that may induce oral regions, which can be both symptomatic and non-symptomatic. In the present case report, we describe a patient with systemic sclerosis who presented with a severe oral opening limitation. The patient was a 59-year-old female who was referred to the Department of Prosthodontics for the fabrication of a flexible complete denture. The patient had been diagnosed with systemic sclerosis and had been undergoing medical treatment for several years. The medical history included a previous diagnosis of systemic sclerosis, which was confirmed by laboratory tests and imaging studies.

Case Presentation:
A 59-year-old female patient was referred to the Department of Prosthodontics for the fabrication of a flexible complete denture. The patient had been diagnosed with systemic sclerosis and had been undergoing medical treatment for several years. The patient had complained of severe oral opening limitation and had difficulty in eating and speaking. The medical history included a previous diagnosis of systemic sclerosis, which was confirmed by laboratory tests and imaging studies.

Material and Methods:
A comprehensive clinical examination was performed. The patient had been diagnosed with systemic sclerosis and had been undergoing medical treatment for several years. The patient had complained of severe oral opening limitation and had difficulty in eating and speaking. The medical history included a previous diagnosis of systemic sclerosis, which was confirmed by laboratory tests and imaging studies.

Results:
A comprehensive clinical examination was performed. The patient had been diagnosed with systemic sclerosis and had been undergoing medical treatment for several years. The patient had complained of severe oral opening limitation and had difficulty in eating and speaking. The medical history included a previous diagnosis of systemic sclerosis, which was confirmed by laboratory tests and imaging studies.

Discussion:
The fabrication of a flexible complete denture was challenging due to the patient's systemic sclerosis. The denture was fabricated using a flexible material that allowed for easy adjustment and modification. The denture was designed to provide maximum support and stability while allowing for easy placement and removal.

Conclusion:
The fabrication of a flexible complete denture for a patient with systemic sclerosis was successful. The denture provided excellent support and stability, allowing the patient to maintain a normal oral function. The patient's systemic sclerosis was under medical treatment, and the denture was fabricated using a flexible material that allowed for easy adjustment and modification. The patient was satisfied with the final result and had no further complaints.