Systemic Scleroderma

in pediatric dentistry

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Introduction

Systemic scleroderma is a rare connective tissue disease with significant orofacial consequences. Information on oral aspects of pediatric scleroderma is limited in the dental literature and current scientific evidence doesn't provide a differentiated approach to these patients.

Objectives

Enlighten pediatric dentists about oral features of children with systemic scleroderma; suggest an dental acting protocol directed to these patients special needs.

Methods

Article research on eletronic databases: Pubmed, Science Direct and Scielo between January 2014 and May 2015, with the following keywords: Scleroderma, juvenile systemic sclerosis, systemic sclerosis, child, childhood, pediatric dentistry, oral manifestations.

Inclusion Criteria	Exclusion Criteria
Articles related with scleroderma and oral cavity	Articles in other languages that were not included in the inclusion criteria
Articles about scleroderma in pediatric patients	Articles about autoimune disease that didn't mention scleroderma
Articles in Portuguese, Spanish and English	Articles about connective tissue diseases that didn't mention scleroderma
Articles in the format of: Guideline; Meta-analysis; Practice Guideline, Review; Systematic Review	

Results

Patient with juvenile systemic scleroderma evaluated in a pediatric dentistry appointment in Faculty of Health Sciences - Fernando Pessoa University

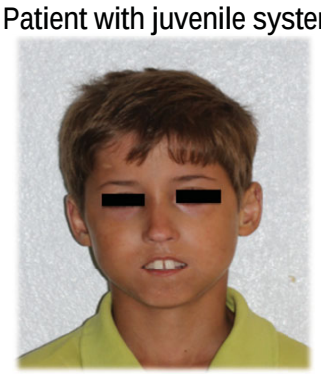

Image 1."*Mauskopf Appearance*"

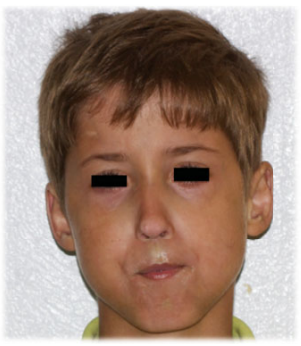

Image 2. Facial expression due to forced attempt to close the mouth

Image 3. Limited mouth opening

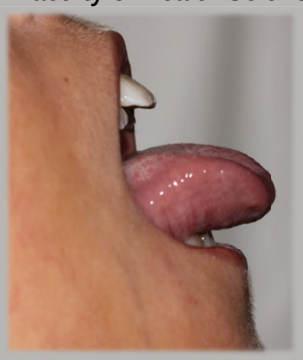

Image 4. Maximum protrusion of the tongue

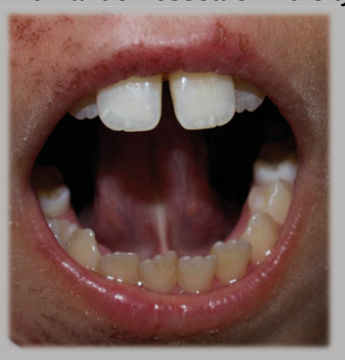

Image 5. Tongue's frenulum shortening and fibrosis

PROPOSAL OF A DENTAL ACTING PROTOCOL DIRECTED TO CHILDREN WITH SYSTEMIC SCLERODERMA

Dental Appointments
Complex treatments must be done on morning periods
Appointment duration (30min)
Bi or trimestral appointments

Office environment
Warm temperature

Patient evaluation
Detailed medical history
Clinical evaluation
Evaluation of individual carie risk
Evaluation of salivary glands function: Simple sialometric method
Imagiological exams: Pediatric film must be used in all ages

Behaviour control
Non pharmacological behaviour control techniques: Protective stabilization - Non recommended
Pharmacological behaviour control techniques: Sedation with nitrous oxide - Non recommended

Preventive strategies

Dental brush and brushing techniques
Electric or manual brushes
FONES technique

Toothpastes
1000-1500 ppm of fluor content

Remove interdental bacterial plaque
Dental floss adapters

Mouthwash solutions
From 6 years old: Fortnight mouthwashes with 0,2% sodium fluoride solutions or daily mouthwashes with 0,05% sodium fluoride solutions
Mouthwashes with 0,12% chlorhexidine solutions in cases of gengivitis or periodontitis
Mouthwashes with xylitol solutions

Salivary production inductors
Pilocarpine: Non recommended
Salivary substitutes with carboxymethylcellulose, polyacrylic acid and mucine
Instruct patient to drink water and use lip hydration creams

Myofascial Stimulation
Instruct patient to:
Make an "O" with mouth
Smile, grimace, smile, grimace
Open mouth as wide as possible and stretch as much as possible
Practice slowly 10 times a day

Nutritional education
Attention to food that increase gastric acid

Preventive care in dental office
Fluoride varnish
Pit and fissure sealants

Pharmacological prescription
Antibiotics: Penicillin – Non recommended
Antibiotic prophylaxis: Cephalexin or clindamycin or azithromycin or clarithromycin for all dental procedures that involve manipulation of gengival tissue or the periapical region of teeth or perfuration of the oral mucosa
Analgesics: No restriction
Anti-inflammatory: Ibuprofen – Non recommended
Antifungals: Miconazole or Nystatin
Anaesthesia: Vasoconstrictor – Non recommended;
Inferior alveolar nerve block: Conditioned technique due to limited mouth opening – mouth retractors may be useful

Treatment strategies

Restorative treatment
It is recommended to use compomers to definitive restorations
Absolute isolation may be useful due to limited mouth opening

Pulp treatment
Absolute isolation is mandatory
Limited mouth opening may prevent pulp treatment. In these patientes successful preventive strategies are of paramount importance

Surgical treatment
Antibiotic prophylaxis is mandatory
Scaring may be improved with salivary stimulants, vitamins (B12 and D), topical growth factor agents and collagen gels

Periodontal treatment
Regular dental cleaning and polishing
Scaling and root planing (particular situations)
Antibiotic prophylaxis is recommended before any periodontal surgery as well as root scaling and planing

Conclusion

This proposal seeks to reinforce the need to include special dental care in early stages, framed in these children's therapeutic plan. However a long term follow-up of these children would be important as well as future studies about systemic scleroderma in pediatric dentistry to evaluated this protocol's applicability.

Clinical Implications

This project will provide a proper intervention of pediatric dentistry on approach of children with systemic scleroderma, contributing sharply to oral and general health improvement of these special patients.

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