

JAW Functional Orthopedics treatment: a particular approach for a child with Marfan syndrome

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INTRODUCTION

- Antoine Bernard Marfan described the syndrome France, 1896
- Multisystem connective tissue disorder usually associated with mutation in fibrillin
- Clinical manifestations: skeletal, ocular, cardiovascular and pulmonary system
- High prevalence of oral and craniofacial abnormalities and in the



Intraoral view (Oct 2008) – hypoplasia spotting and gingivitis / maxillary constriction with highly arched palate / mandibular retrognathia and crowding.





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development of obstructive sleep apnea

• The penetrance of some feactures is age dependent - this may hinder the clinical diagnosis in children



OBJECTIVES AND JUSTIFICATION

Downward protrusion (Oct 2008) – signal of skeletal open bite.



Structural Articular Compass Analysis (Oct 2008). Skeletal open bite. Note the high values of gonial angle in the lower part.

Anterior facial height greater (N-Me = 112mm) and increased lower anterior facial height (ANS-Me = 68 mm).

Pubmed Publications (last 10 years):

- Only orthodontic treatments were found many cases with tooth extraction and related chronic inflammation in periodontal tissues
- High risk of cardiovascular complications the prevention of periodontitis should be given high priority when planning the treatment
- American Heart Association effectiveness of antibiotic prophylaxis is unknown
- De Coster PJ, 2002: abnormal structural tooth x orthodontic forces

 Purpose: correct malocclusion, avoiding tooth decay, gingivitis and tooth extraction, using functional orthopedics appliances that are removable and facilitate oral hygiene

- Oct 2008 June 2009: Simões Network 6 (SN6) with anterior elements position according to Articular Compass (Simões WA, 1999)
- June 2009 April 2010: Simões Network 3 (SN3) and a Bimler appliance combined (BGA)
- > April 2010 May 2013: SN3 (at night)



Intraoral view (April 2010) – SN6 reduced the overjet without increasing facial height.

CASE REPORT

- 8 year old girl (8y2m)
- Positive family history for Marfan Syndrome (MFS)
- Mitral valve reflux and mitral myxomatous degeneration with regurgitation jets, myopia, scoliosis
- Predominant mouth breathing and oral and craniofacial abnormalities



Frontal and profile patient face (Oct 2008). Note muscle hypotonia, lack of lip seal with upper lip shortening.



CONCLUSION

- The mandibular retrognathia was reduced
- ✓ The open bite and crowding was corrected
- The shape of the palate, oral breathing and masticatory muscle tone have improved
- Oral health maintained