



## **PREVALENCE OF IMAGING FINDINGS BY TMJ PANORAMIC RADIOGRAPHS IN PATIENTS WITH JUVENILE IDIOPATHIC ARTHRITIS.**

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### **BACKGROUND**

Juvenile idiopathic arthritis (JIA) is a chronic inflammatory disease that develops until the age of 16. The involvement of the temporomandibular joint (TMJ) was reported in 17-87% of JIA patients. Although TMJ arthritis may be asymptomatic, it can lead to changes in facial growth. The panoramic radiograph (PR) of the mandible provides an overview of the teeth and bones of the face including the TMJ. Unlike other imaging exams, it is a non-expensive method with high availability and does not require sedation in young children.

The objective of this study was to determine the prevalence of TMJ radiographic findings in a population of JIA patients and to compare to healthy individuals paired by gender and age.

### **MATERIALS AND METHODS**

We retrospectively and blindly evaluated 137 PR of patients from our outpatient pediatric rheumatology clinic (study group) and compared them to 137 PR of healthy subjects (control group). We analyzed: 1 – the presence of abnormal mandibular condyle morphology, 2 - the presence of erosion, 3 – the proportion between the height of the condylar process and the height of the coronoid process and 4- the presence of accentuated antgonial notch. This study was reviewed and approved by the local Medical Ethics Committee.

### **RESULTS**

All the alterations in PR were statistically more frequent in patients than in control group: erosion (36.6% vs 8.8% respectively,  $p < 0.001$ ), abnormal condyle morphology (52.5% vs 7.3% respectively,  $p < 0.001$ ), disproportion (54.7% vs 18.2% respectively,  $p < 0.001$ ) and accentuated antgonial notch (34.3% vs 17.5% respectively,  $p < 0.002$ ). 74.5% of patients had one of the four described PR alterations, compared to 34.3% of the control group ( $p < 0.001$ ). When we considered the presence of the four alterations in the same individual we found 14.6% of the patients and 1.4% of the controls ( $p < 0.001$ ).

### **CONCLUSION**

PR can be used as a screening for the evaluation of TMJ involvement in children with JIA and further imaging exams should be performed in case of alterations in the initial assessment with PR.