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46th SIDO International Congress

“Interdisciplinary Orthodontics in children and adults”

Updating Course “Lifelong integrated Orthodontic and Periodontal care”

In collaboration with Società Italiana di Parodontologia e Implantologia **SIPI**

Milano, October 29-31 2015

CEPHALOMETRIC COMPARISON AND STATISTICAL ANALYSIS OF INTERCEPTIVE ORTHODONTIC TREATMENT WITH ANDRESEN AND SCIENTIFIC OUTCOMES

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Co-Authors: Dott. Paolo Faccioni; Prof. Fiorenzo Faccioni

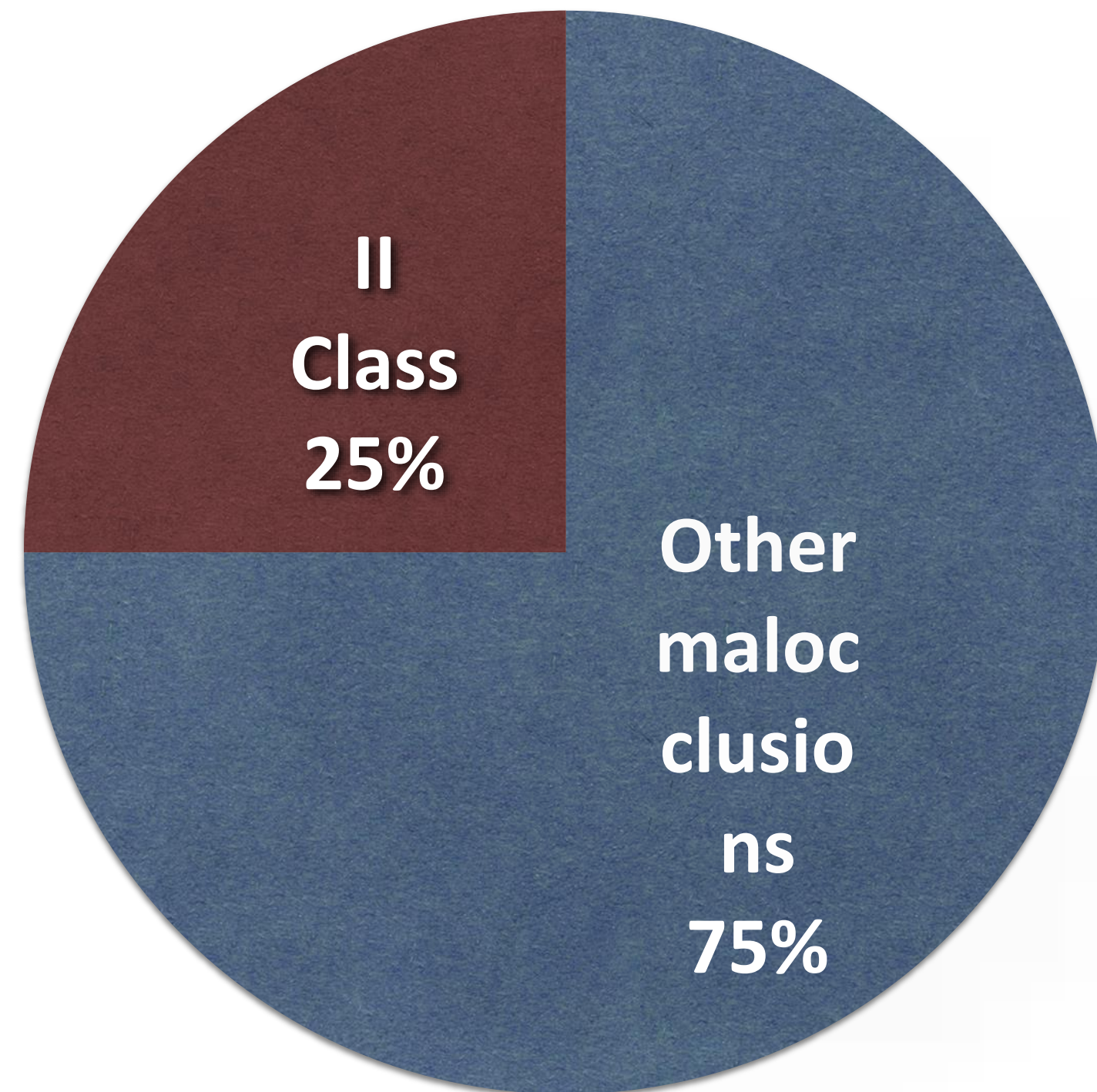


DEFINITION OF FUNCTIONAL ORTHOPEDICS

FUNCTIONAL JAW ORTHOPEDICS IS A TYPE OF II
CLASS DENTOSKELETAL MALOCCLUSIONS
TREATMENT ASSOCIATED TO MANDIBULAR
RETROGNATHISM

*A functional appliance changes mandibular position
and brings the patient to keep it open and/or
forward.*

II CLASS MALOCCLUSIONS

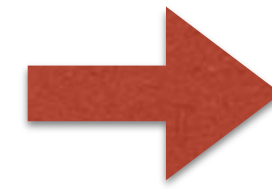


1. Maxillary dentoalveolar protrusion
2. Maxillary skeletal protrusion
3. Mandibular dentoalveolar retrusion
4. Mandibular skeletal retrusion
5. Mandibular backward rotation

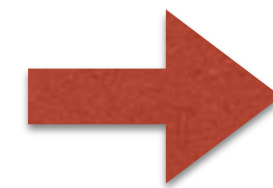
| Upper jaw | Lower jaw | Prevalence |
|---------------|-----------------|------------|
| Normal | Retruded | 40% |
| Retruded | Retruded | 20% |
| Protruded | Normal | 20% |
| Protruded | Retruded | 20% |

Josefsson, E., Bjerklín, K. and Lindsten, R.: Malocclusion frequency in Swedish and immigrant adolescents-influence of origin on orthodontic treatment need. European Journal of Orthodontics, 2007; 29, 79–87.

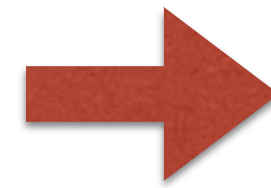
FUNCTIONAL TREATMENT EFFECTS



MANDIBULAR GROWTH



MAXILLARY GROWTH CONTROL

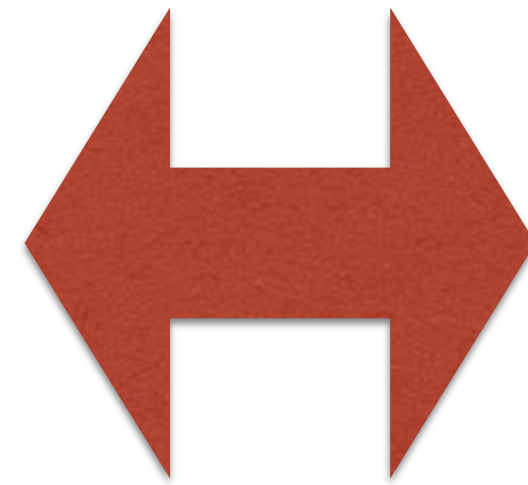


EFFECTS OF DENTOALVEOLAR COMPENSATION

CORRECT TREATMENT TIMING

PUBERTAL GROWTH SPURT

- females 9-11 years
- males 11-13 years



EARLY TREATMENT

7-11 years

- less injuries
- aesthetic factors
- selfconfidence
- social well-being
- shorter orthodontic treatment

PURPOSE OF THE STUDY

Analyse the short-term effects of Andresen in subjects with mandibular retrusion and early pubertal growth stage.

- 1. Maxillo-mandibular changes** on the sagittal plane between T0(before) and T1(after)
- 2. Dentoalveolar changes** between T0 and T1

MATERIALS AND METHODS

14 SUBJECTS

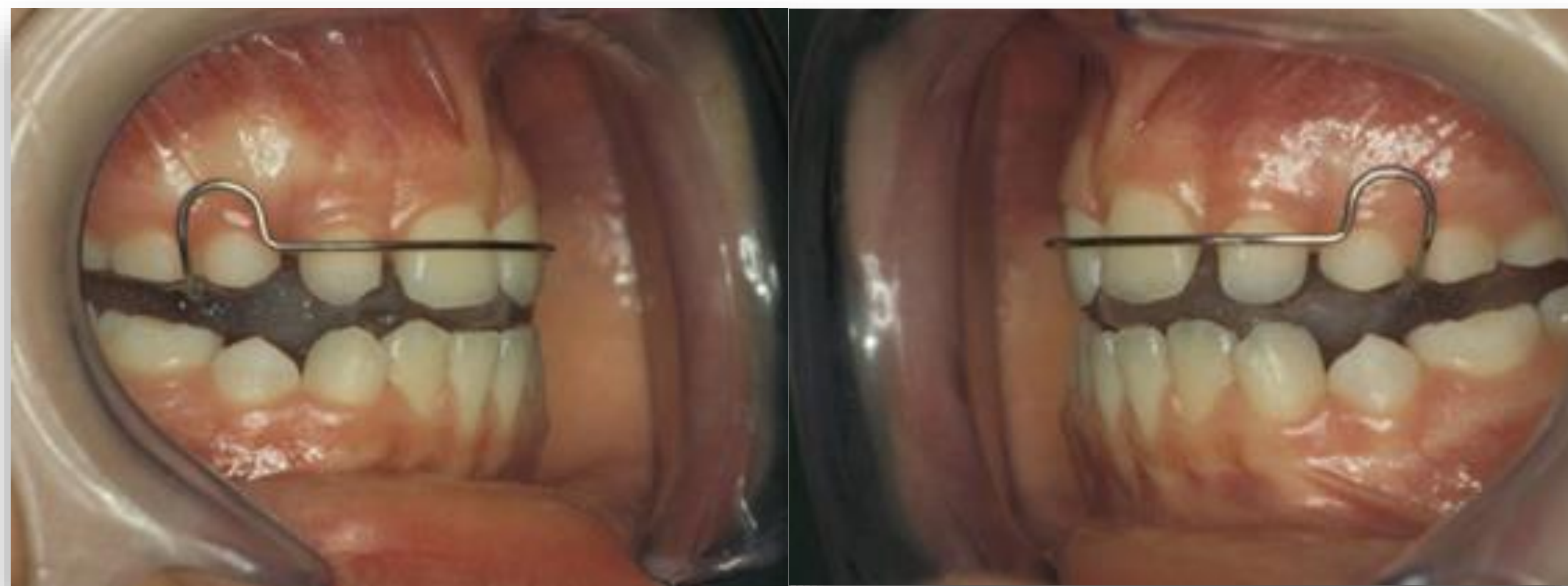
**II CLASS MALOCCLUSION WITH MANDIBULAR
RETRUSION**

ANDRESEN

9 and 11 YEARS, CVM STAGE 1 0 2

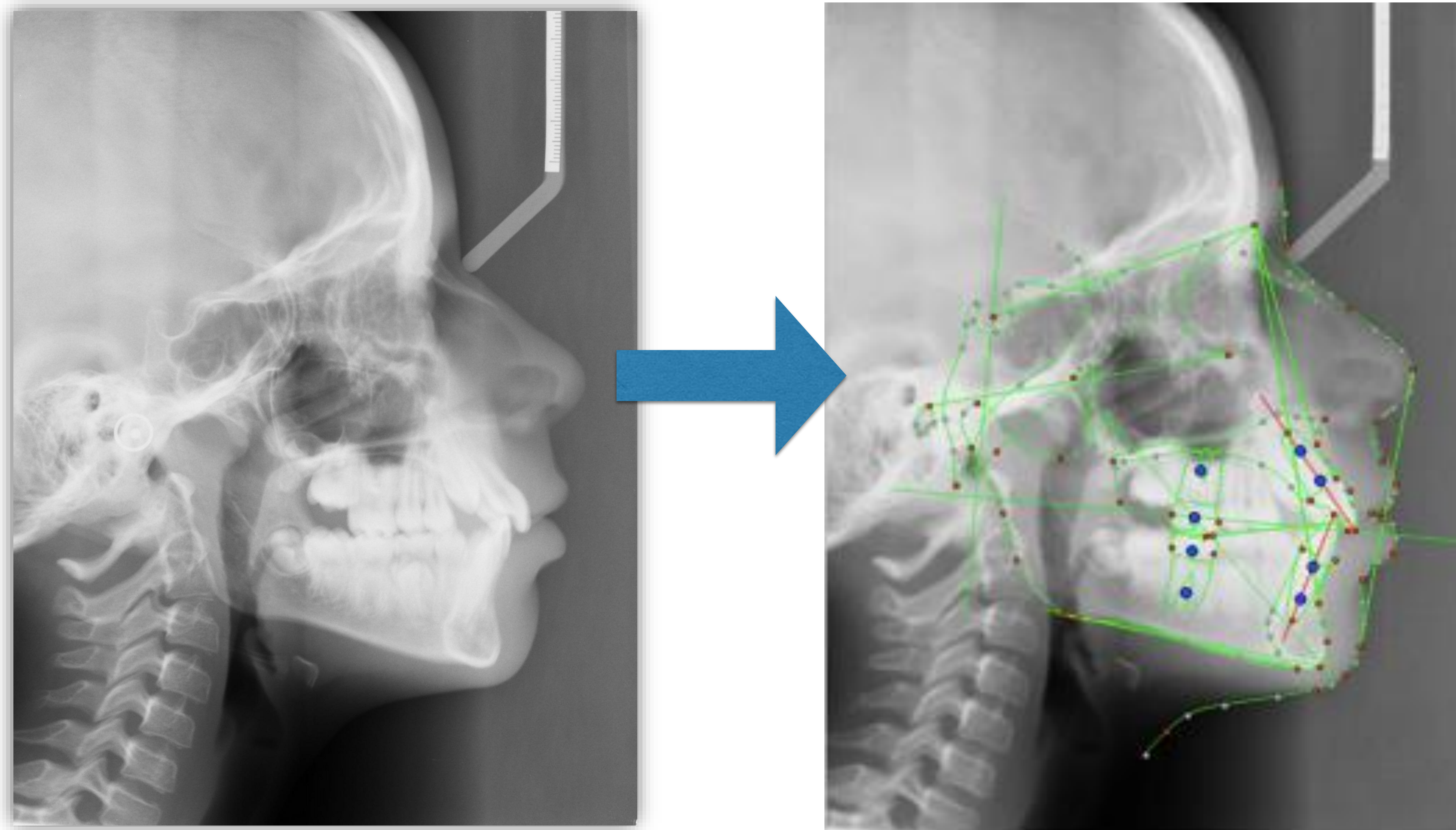
LATERAL RADIOGRAPHS at T0 and T1

ACTIVATOR EFFECTS



- 1. Skeletal effect of increase of mandibular growth**
- 2. Dentoalveolar effect of retroinclination upper incisors and proclination lower incisors (secondary)**

CEPHALOMETRIC ANALYSIS



CEPHALOMETRIC VARIABLES

SKELETAL MANDIBULAR VARIABLES

- **Pg/OLP**: sagittal mandibular position
- **SNB**: sagittal mandibular position
- **Co/OLP**: sagittal condylar position
- **Pg/OLP+Co/OLP**: mandibular length

MAXILLO-MANDIBULAR SKELETAL VARIABLES

- **ANB**
- **FMA**

SKELETAL MAXILLARY VARIABLES

- **A/OLP**: sagittal maxillary position
- **SNA**: sagittal maxillary position

DENTOALVEOLAR VARIABLES

- **Overjet**
- **Overbite**
- **Molar relationship**
- **Interincisal angle**

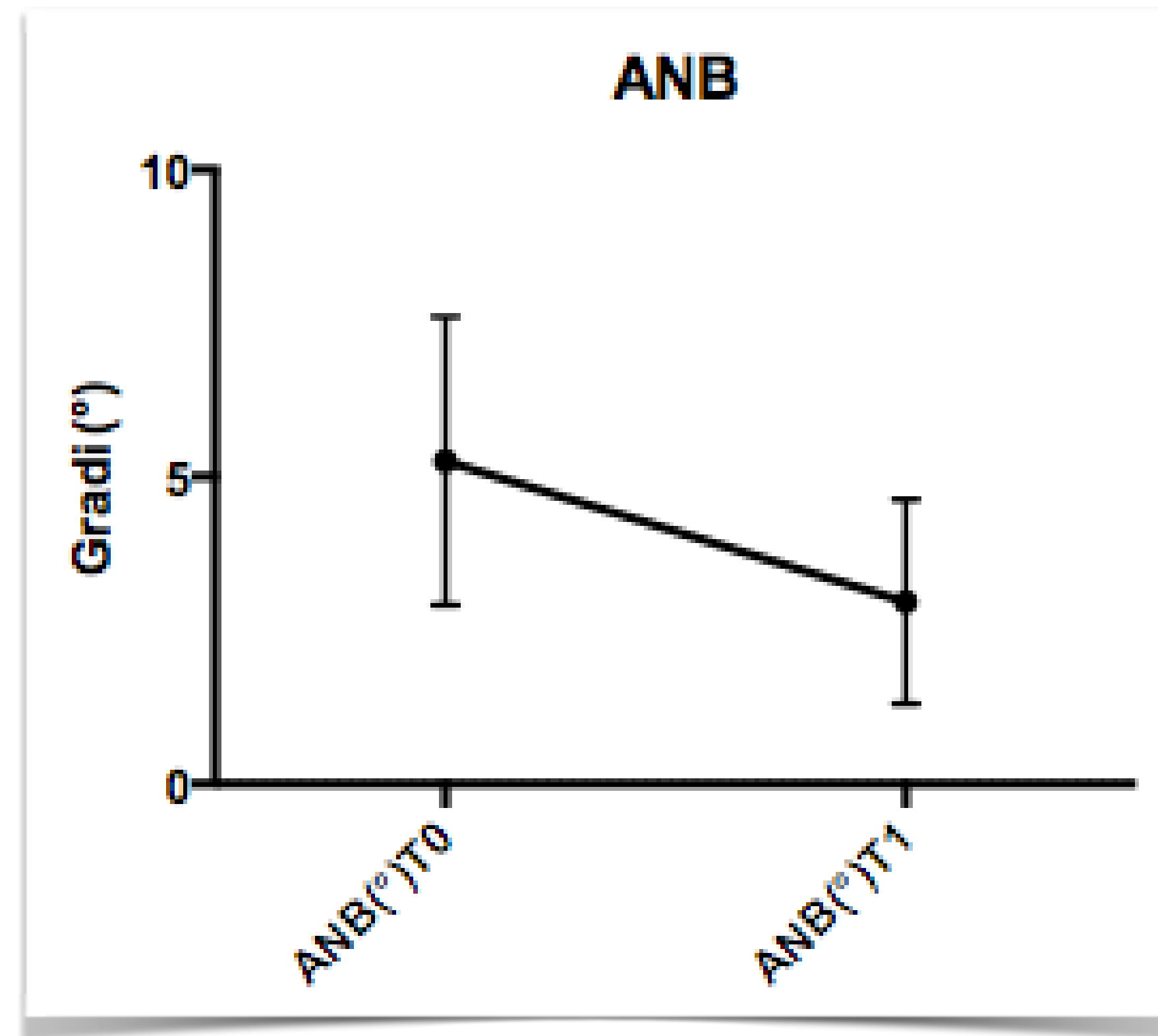
RESULTS

Paired T Test

Nonparametric Tests

SIGNIFICANCE:
P value < 0,05 %

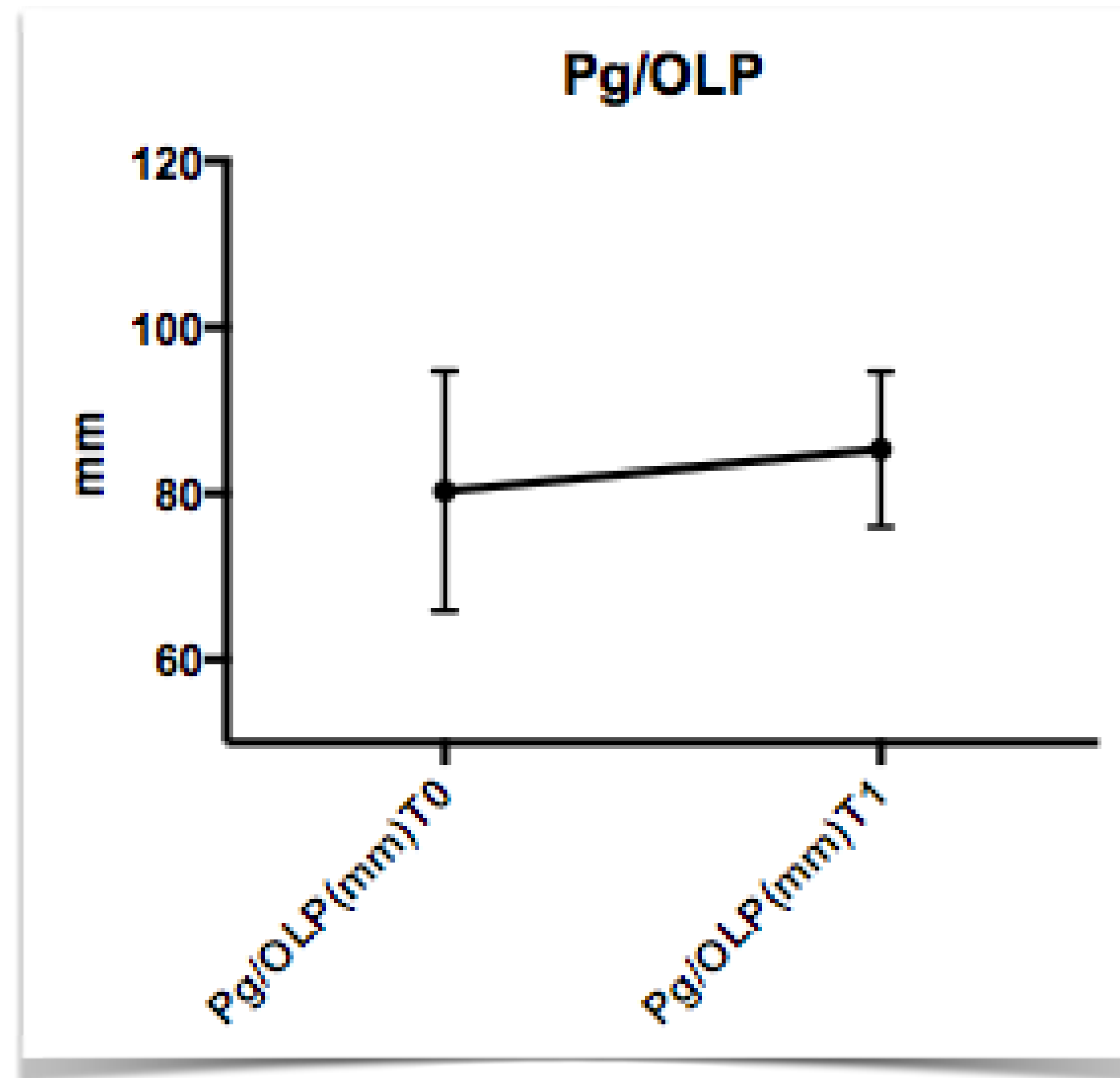
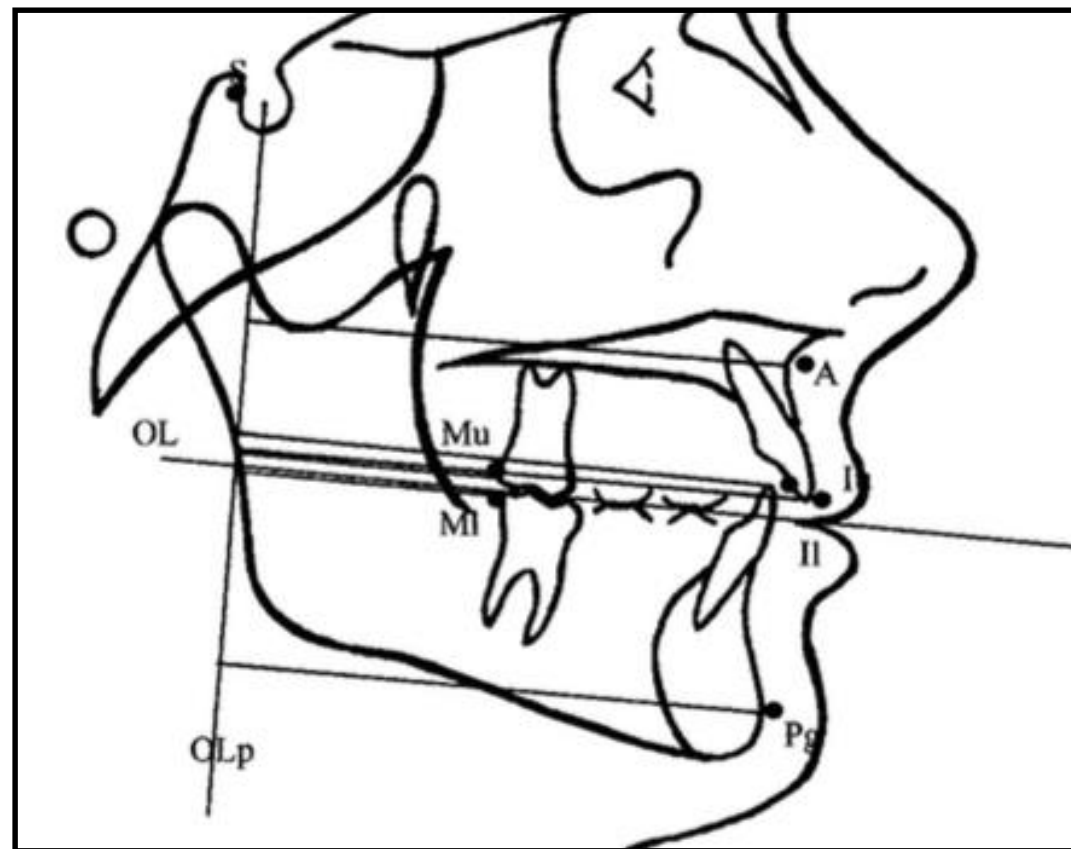
SKELETAL VARIABLES: ANB ANGLE



T1-T0
 $-2,29 \pm 3,05^\circ$

P=0,0085

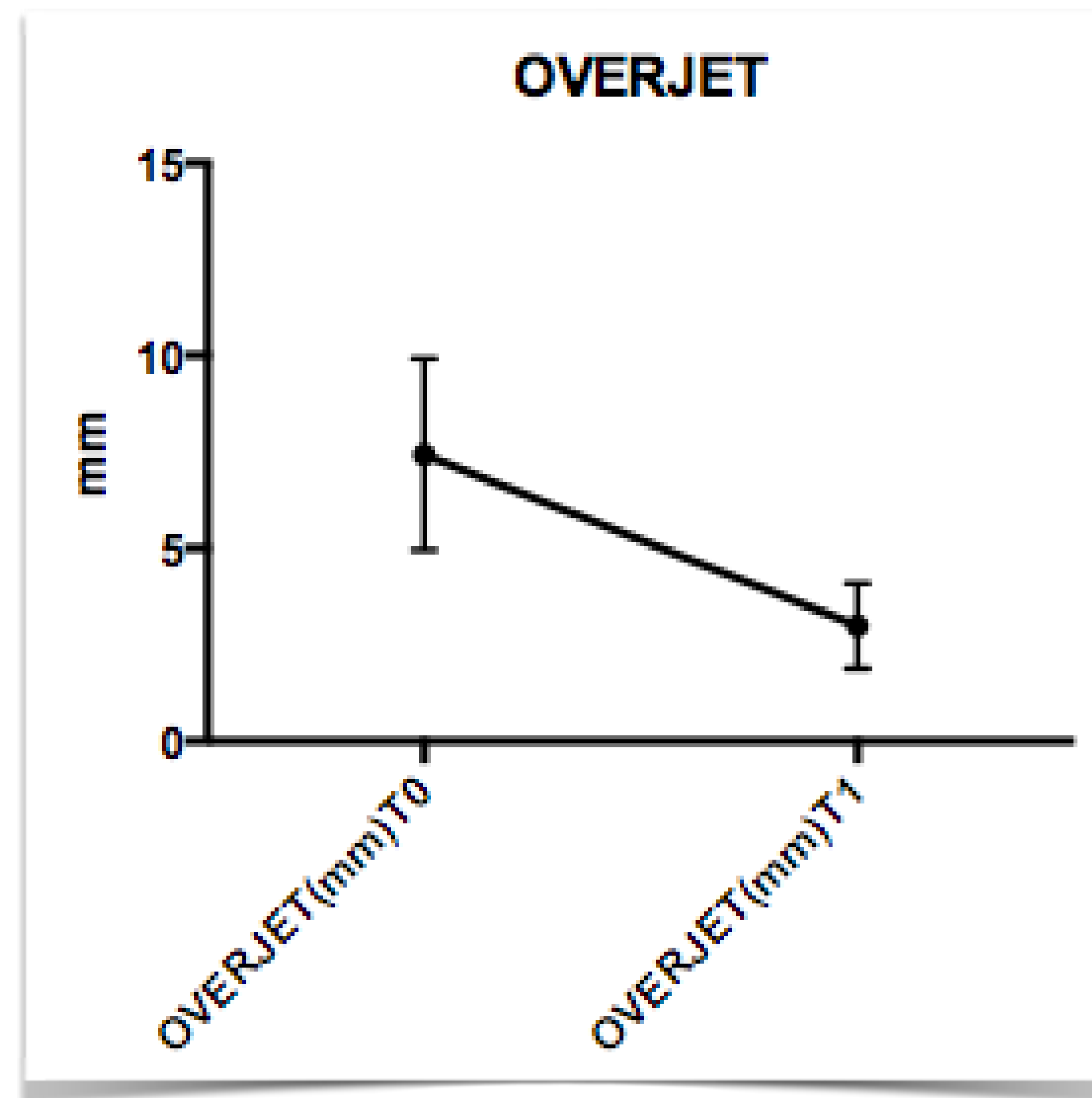
SKELETAL VARIABLES: Pg/OLP



T1-T0
5,021±13,86 mm

P=0,0580

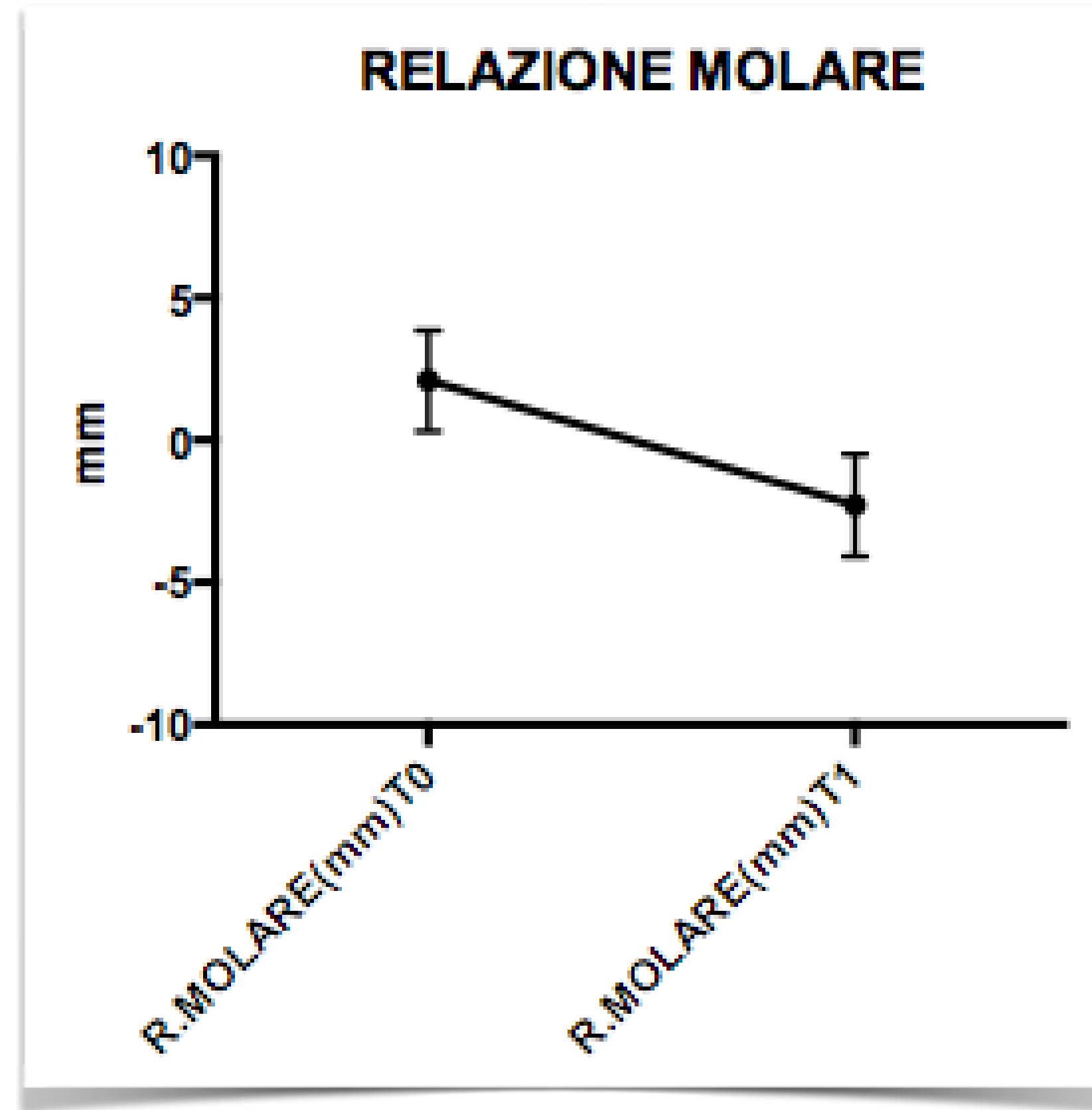
DENTOALVEOLAR VARIABLES: OVERJET



T1-T0
-4,44 ± 2,36 mm

P=0,0001

DENTOALVEOLAR VARIABLES: MOLAR RELATIONSHIP

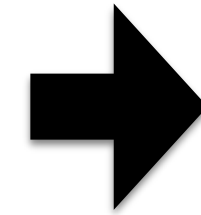


T1-T0
-4,37 ± 2,25 mm

P=0,0001

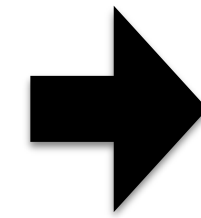
DISCUSSION

1. ↓ ANB ANGLE T0-T1



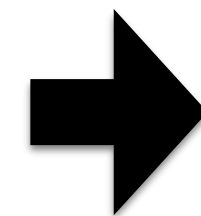
Mandibular advancement and
maxillary growth control

2. ↑ Pg/OLP T0-T1



Mandibular advancement
associated with increase in
length

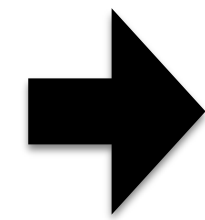
3. Co/OLP UNCHANGED



Not back displacement from
condylar back growth

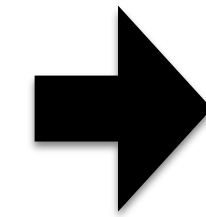
DISCUSSION

1. ↓ OVERJET



Retroinclination of upper incisors
and proclination of lower incisors

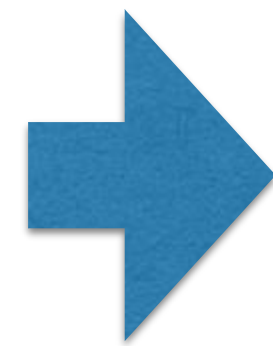
2. BETTER MOLAR RELATIONSHIP



I Class Occlusion that
maintains a stable
mandibular position

CONCLUSIONS

BEFORE PUBERTAL
GROWTH PEAK



- **Positive effects** for correction of mandibular defect
- **Better sagittal** maxillo-mandibular **relationship**
- Favorable **Dentoalveolar Changes**
- **Correct I Class occlusal relationship.**



**THANK YOU FOR THE
ATTENTION**