The influence of palatal expansion and face mask therapy in solving certain Class III malocclusions at early stages of treatment is very well known, however, the difference between starting treatment before or after the occlusion of the first permanent molar is not quantified.

The aim of this study is to determine the benefit of treating Class III malocclusions before the occlusion of the first permanent molars.

Material and Methods

20 Class III patients were separated into 2 different groups. All of them were treated with a rapid palatal expander and face mask. Lateral cephalometric analysis were obtained at baseline and at the end of the therapy. Group 1 (n=12, mean age: 6 years and 3 months) did not have their first permanent molar completely erupted, while Group 2 (n=8, mean age: 7 years and 9 months) had their first permanent molars already in occlusion.

Descriptive analysis was performed for each variable. In order to determine if there were statistical differences concerning the temporal evolution between T0 and T1 in both groups of patients (G1 and G2), Student’s t-test or Wilcoxon test was applied for two independent samples, depending on verification of Normal Hypothesis. The normality test used was Shapiro–Wilk and the homocedasticity was assessed with F test. The level of significance used was 0.05. Statistical analysis was performed using R software.

Results

The analysis of ANB showed a statistical significant improvement in the first group (0.02). For the rest of variables studied: SNA, SNB, Upper Incisor to palatal plane, Lower Incisor to mandibular plane, MMFA and Wits, no statistical significance was reached. However, a noticeable improvement in treatment concerning Wits (0.09) and SNB (0.07) values was appreciated for the younger group. Higher pvalues, but still favorables for Class III correction, were found for MMFA (0.14) and SNA (0.53). There was no significant differences concerning dental compensation between both groups.

Conclusions

1. This study suggest the skeletal benefit of the very early treatment in Class III patients with the RME+FM protocol. The analysis of ANB showed a statistical significant improvement for the younger group.
2. Although not statistical significant differences were appreciated for the rest of skeletal variables, once more, better results after treatment with RME+FM protocol were obtained in the younger group; thus, authors suggest future investigation should be carried out with a bigger sample.
3. Improvement in Class III treatment is appreciated in both groups; However, while patients may be treated in both ranges of age, better and faster results were obtained with early treatment.
4. Apart from this apparent maturaition-dependant skeletal benefit, we also consider clinically indicated to treat Class III malocclusions, as early as detected and cooperation is allowed, for functional and aesthetics reasons in order to reduce possible psychosocial scars.