

INTRAORAL FEATURES AND CRANIOFACIAL MORPHOLOGY OF PATIENTS WITH CLEFT LIP AND/OR PALATE MEASURED USING 3D TOOLS

OCULTADO PARA NÃO IDENTIFICAÇÃO DO AUTOR

1. INTRODUCTION

Cleft lip and/or palate is the **most common oral birth defect**. **Individuals** with cleft lip and/or palate may **experience problems** with feeding, speech, hearing and social integration, as cleft lip and palate are multifaceted deformities affecting both morphology and orofacial function.

2. OBJECTIVES

The aim of the present study was to gain in-depth knowledge of the **craniometric characteristics of patients with cleft lip and/or palate** on cephalometric tracings, the intraoral morphology on 3D digital models, and the facial characteristics and symmetry on 3D digital models and 3D facial photographs.

3. DESIGN

A comparative cross-sectional study was conducted in patients with cleft lip and/or palate without associated syndromes, divided into two age groups (14-15 and 16-19 years). **Lateral skull teleradiographs, 3D digital intraoral models and 3D facial photographs** were analysed. The sample was obtained from patients who had attended the Postgraduate Specialisation in Orthodontics at the [REDACTED]. The same analyses were carried out on a control group of the same age.



4. RESULTS

56 PARTICIPANTS

Statistically significant results according to groups:

25 CLEFT PATIENTS

31 CONTROL PATIENTS

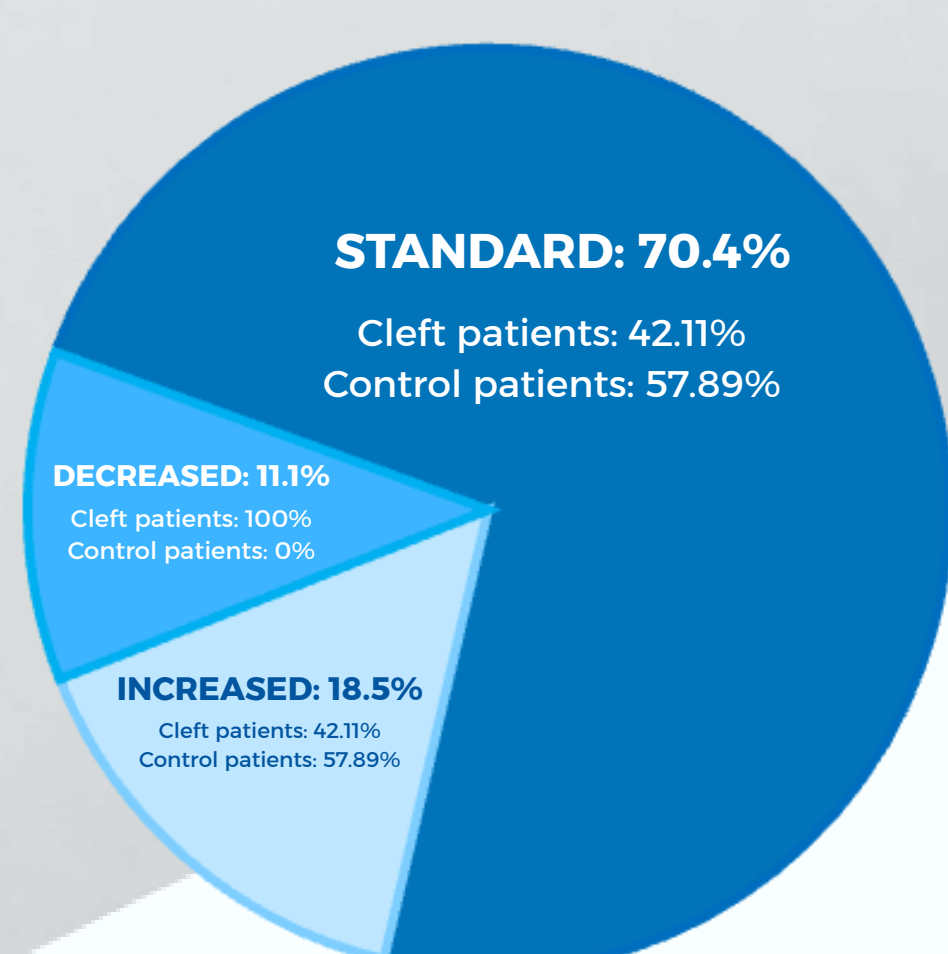


Figure 1. Maxillary depth values 14-15 years

Maxillary depth was significantly reduced in cleft patients aged between 14 and 15 years.

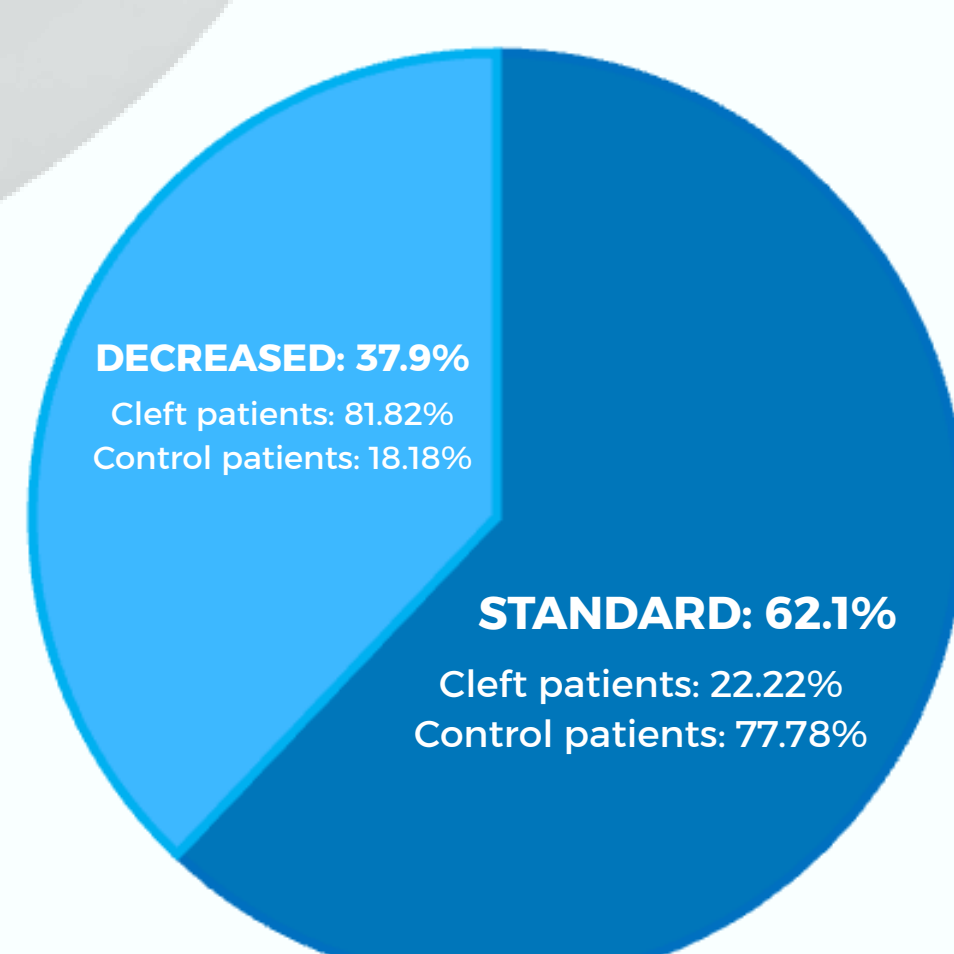


Figure 2. SNA angle values 16-19 years

The SNA angle was significantly lower in cleft patients aged between 16 and 19 years.

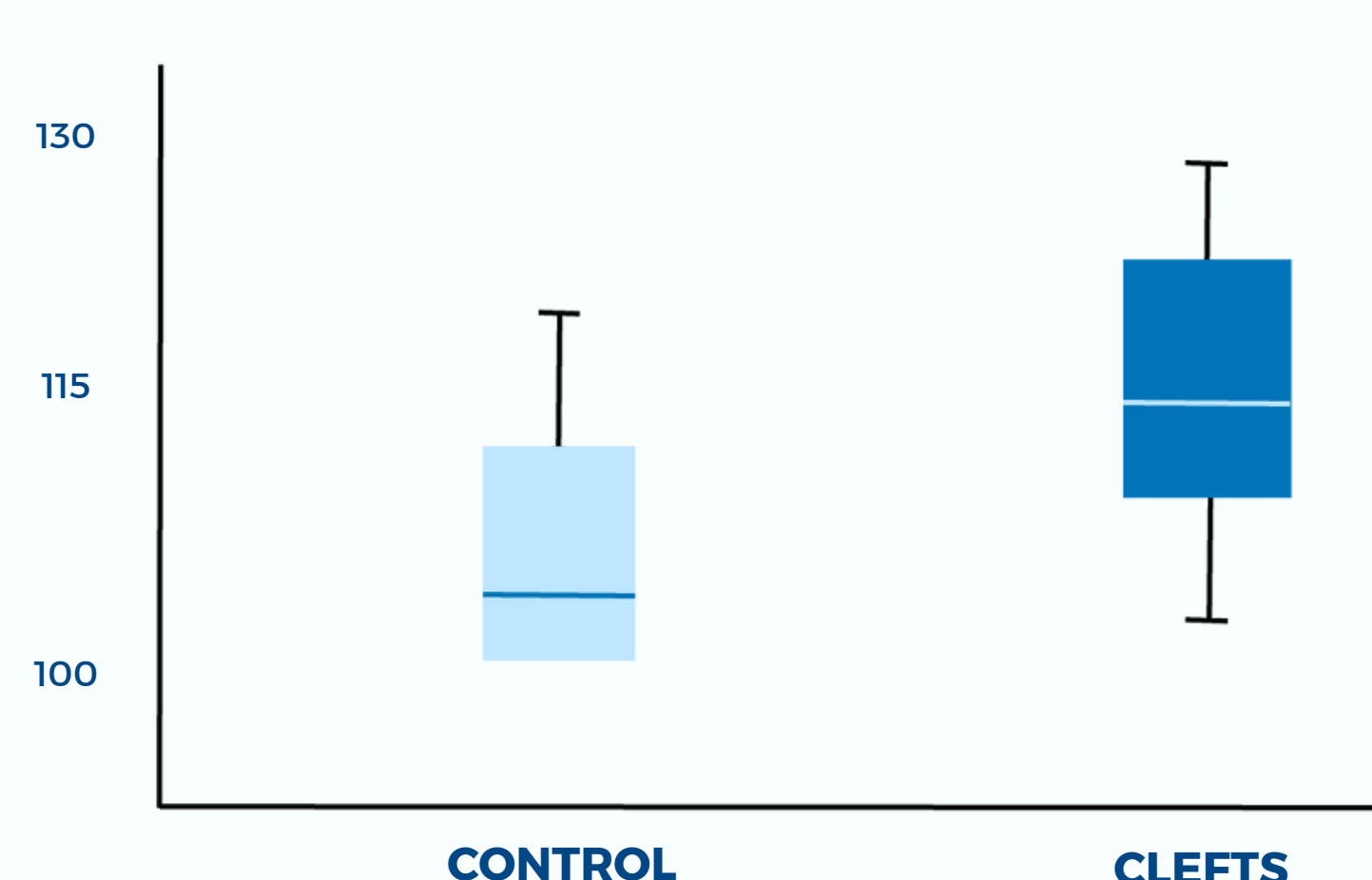


Figure 3. Total facial height values 14-15 years

Total facial height was significantly greater in cleft patients aged between 14 and 15 years.

5. CONCLUSIONS

Statistically significant differences were observed in cleft patients:

- **Maxillary hypoplasia**
- **Dolichofacial pattern**
- **Lingually positioned lower incisors**

No statistically significant differences were detected in the parameters analysed on 3D digital intraoral models.

6. MAIN BIBLIOGRAPHY

- López-Giménez A, Silvestre-Rangil J, Silvestre FJ & Paredes-Gallardo V (2018) Craniofacial cephalometric morphologies in different cleft types: a retrospective cross-sectional study of 212 patients. Oral radiology 34(2): 127-135.
- Sinha SP, Bajracharya M, Huang CS & Ko EW (2023) Does cleft lip and palate affect the severity of malocclusion? Clinical oral investigations 27(12): 7557-7567.
- Viñas MJ, Galliotto-Barba F, Cortez-Lede MG, Rodríguez-González MÁ, Moral I, Delso E, González-Meli B, Lobo F, López-Cedrún JL, Neagu D, Garatea J, Garatea A, Berenguer B, Lorca-García C, Delgado MD, Martí E, Gutiérrez JM, Hernández C, Murillo-González J, Martínez-Álvarez C & Martínez-Sanz E (2022) Craniofacial and three-dimensional palatal analysis in cleft lip and palate patients treated in Spain. Scientific Reports 12(1).