



# EUROPEAN CLEFT PALATE CRANIOFACIAL ASSOCIATION

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## ABSTRACT BOOK

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### **Three-dimensional analysis of rare facial cleft and association with hard tissue and soft tissue**

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**Background:** Rare facial clefts affect different structures of the face and can extend to the skull. They are classified numerically from the location of the cleft in relation to the sagittal midline, in 16 distinct regions, and may refer to soft tissue and bone tissue or hard tissue (Tessier's classification).

**Aims:** The aim of this study was to evaluate morphologically the craniofacial structures involved in individuals with complex facial clefts to better understand the pathogenetic mechanisms involved in the occurrence of these clefts, as well as to aid in the syndromic diagnosis, management and craniofacial reconstruction.

**Methods:** We included in this study radiological data of 15 patients from Hospital for Rehabilitation of Craniofacial Anomalies, University of Sao Paulo (HRCA/USP), Bauru, Sao Paulo, Brazil. The data were assessed by 3D craniofacial computed tomography (helical or cone beam) in the Mimics software program and the images were segmentation for morphological description of craniofacial alterations and comparison with cleft in hard tissue and soft tissue.

**Results:** All patients had more than one type cleft (facial/orofacial or cranial). Tessier clefts in six cases were not associated with other anomalies. Other 9 cases had a known condition associated: three cases presented amniotic band sequence, three oculoauriculovertebral spectrum, one frontonasal dysplasia, one pai syndrome and one Treacher Collins syndrome. Different combinations of rare facial clefts were observed in all cases studied, but no pattern can be established, reflecting the diagnostic heterogeneity of this group. The complex cleft was observed in both soft and hard tissue, but they did not show the same severity.

**Summary/Conclusion:** The morphological alterations observed of soft tissue and bone tissue are of fundamental importance for the planning of craniofacial rehabilitation and treatment and due to the complexity of the cases and absence of a pattern of malformation in patients evaluated in this study suggested that 3D images of hard tissue and soft tissue should be evaluated to contribute in diagnosis of complex rare clefts and associated syndromes. The better characterization of type by Tessier clefts might aid in understanding the pathogenesis and etiology of rare facial clefts.