

## **Efficacy of proportional condylectomy in a treatment protocol for unilateral condylar hyperplasia: A review of 73 cases**

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Unilateral condylar hyperplasia (UCH) is a benign pathology characterized by an excessive growth of a mandibular condyle, resulting in mandibular, facial, and occlusal deformities. Scintigraphic hyperactivity usually triggers the need of condylectomy. Delaire has presented a protocol for the treatment of active or non-active UCH systematically using a proportional condylectomy, and other orthognathic techniques, which could solve both aetiology and adaptive deformities. The aim of this study was to evaluate this protocol by clinical and radiographical analysis. Materials and methods: Seventy-three patients with UCH were included in this retrospective study, and divided by clinical and cephalometric analysis in vertical, or transversal forms of UCH according to Delaire's morphological classification. All patients were treated with 'proportional condylectomy', any indicated orthognathic surgical procedures, along with maxilla-mandibular elastic therapy, and early rehabilitation. Architectural, aesthetical, occlusal, and functional features were evaluated using clinical, cephalometric, and photographic measurements both preoperatively, and at the end of the follow-up.

Results: A female predominance was observed (65.8%;  $p=0.0071$ ). Vertical forms were more represented than transversal forms (61.6% vs 38.4%,  $p=0.0466$ ). Of the 44 patients who underwent scintigraphy, 32 had metabolic condylar hyperactivity (sensitivity = 0.73). There was a significant improvement of the occlusal plane, the posterior vertical excess, the chin deviation and the soft-tissue features ( $p<0.0001$ ), regardless of the preoperative scintigraphic activity status ( $p<0.0001$ ). Comparison of the projected height of resection measured on the cephalometric analysis and intraoperative height of resection showed no differences ( $p < 0.001$ ). The occlusion was considered as perfect in 72.7% of the patients, and temporo-mandibular joint (TMJ) functions as normal in 93%.

Conclusion: The results of this study have demonstrated that a protocol using a 'proportional condylectomy', any indicated orthognathic techniques, maxilla-mandibular elastic therapy, and rehabilitation, is a reliable option for treating UCH, regardless the activity status of the pathology.