

Evaluation of vertical ramus osteotomy for the surgical correction of unilateral mandibular posterior vertical insufficiency: Long-term follow-up results.

Marine ANQUETIL, Jacques Marie MERCIER, Sophie LEVEAU, Sarah MRABET, Thomas DURAND, Jean Michel SALAGNAC Jean Philippe PERRIN, Pierre CORRE, Hélios BERTIN.



Institution:

- Department of Oral and Maxillofacial Surgery, Rare Diseases
Nantes University Hospital, FRANCE

Purpose – The posterior vertical insufficiency (PVI) is a growth defect of the mandibular condyle, leading to a facial asymmetry. Various surgical procedure can be proposed to elongate the hypoplastic ramus. The aim of this study was to evaluate aesthetic and architectural long-term outcomes of the vertical ramus osteotomy (VRO) in patients with unilateral PVI.

Materials and methods – Forty-eights patients operated with VRO were included in this retrospective study. Aesthetic and architectural parameters were evaluated on frontal photographs, on frontal and lateral cephalograms pre-operatively, post-operatively, at 1-year and at the end of the follow-up.

Results – The aesthetic assessment revealed a significant correction of the chin deviation (CD) and of the lip commissural line tilt after VRO ($p_1=0.0038$ and $p_2=0.0067$ respectively) with stable results. The architectural analysis revealed a significant improvement in maxillary and mandibular occlusal planes, as well as the chin deviation ($p<0.0001$). A trend for relapse was noted for the mandibular canting and the CD during the follow-up. VRO allowed for a mean mandibular lengthening of 8.39 mm, ranged from 2.5 to 14mm.

Conclusion – VRO shows good results for the ramus lengthening in patients with unilateral PVI.

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