Outcomes of functional treatment versus open reduction and internal fixation of condylar mandibular fracture with articular impact: a retrospective study of 83 adults

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Introduction: The treatment of fractures in the mandibular condylar process remains controversial. The aim of this study was to assess the outcomes of isolated functional
treatment versus open reduction and internal fixation (ORIF) of mandibular condylar fracture with articular impact based on clinical and radiological criteria.
Materials and methods : Eighty-three patients with a mandibular condylar fracture with articular impact were included in this retrospective study. They were divided according to Loukota, Spiessl and Schroll, Mercier and Rasse, Neff, and Hlawitschka classifications. Two groups were created: operated patients (operated) and non-operated patients (non-operated). Occlusal and functional features were evaluated using clinical measurements at 1, 3, 6, and 12 months after the treatment as well as radiological measurements performed preoperatively, 6 weeks later, and at the end of the follow-up.
Results : A male predominance was observed in the data (69.9%, p<0.0001). Isolated functional treatment was applied in 55 patients (66.26%). Twenty-eight patients (33.7%) were operated upon using a pre-auricular or modified Risdon's approach. Maximal mouth-opening (MMO) was lesser in "operated" group compared to "non-operated" group until 6 months (25.75 mm vs 31.96 mm, 34.76 mm vs 37.95 mm, 38.06 mm vs41.87mm respectively 1, 3 and, 6 months, p<0.05). Results were satisfactory 1 year after treatment (41.29 mm vs 45.22mm, p>0.05). There was no difference concerning temporomandibular joint dysfunctions between operated and

non-operated patients. For unilateral fractures, the loss of height of the ramus was significantly higher in operated patients initially compared to “non operated” group ($p = 0.0137$). After surgical correction, there was no difference between the two sides of mandible. At the end of the follow-up, the there was no difference between operated and non-operated ramus ($p = 0.1304$ and 0.6420).
Conclusion : The present study showed that a properly followed isolated functional treatment provided similar clinical results to ORIF for mandibular condylar fractures with articular impact. Surgical treatment should be preferred when the loss of height of the ramus is severe to restore the ramus height since adult condylar remodeling is less
efficient than in children.