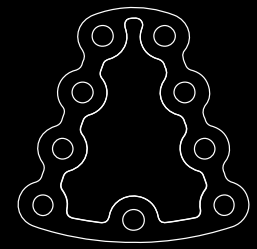


CASE REPORT



Fixation of a multi-fragmented right condylar base fracture with a MODUS 2.0 9-hole TCP plate in a partially edentulous patient

The Surgeon

Louvrier Aurélien MD-PhD, Praticien Hospitalier

Hospital: CHU Jean Minjoz, Besançon, France

Dr. Louvrier is a specialist in the department of maxillofacial surgery headed by Pr. Christophe Meyer. This department is specialized in the surgical management of condylar fractures. Due to his expertise in this field, he is a speaker and instructor at national and international congresses, workshops and courses.

Introduction

Fractures of the condylar region are frequent. Depending on the fragment size and dislocation, surgery can be indicated. Several surgical treatment options and internal fixations have been tried in recent decades. Osteosynthesis of a multi-fragmented condylar base fracture using a 9-hole TCP plate will be presented.

The Case



Patient Profile

A 70-year-old woman was involved in a traffic accident in her car. Her medical history includes osteoporosis, hypothyroidism and right breast cancer.



Clinical Findings / Preoperative Analysis

The clinical examination showed a limitation of the mouth opening, pain in the right condylar region of the mandible, and the patient was unable to wear her removable dentures. A bone fragment was palpable opposite the right masseter muscle. The CT scan showed a multi-fragmented and displaced fracture of the base of the right condyle (Figure 1).



Figure 1. Preoperative CT scan showing a displaced multi-fragmented fracture of the right condylar base. **A.** Medial view of a 3D reconstruction. **B.** Posterior view of a 3D reconstruction. **C.** Lateral view of a 3D reconstruction. **D.** Frontal reconstruction. **E.** Sagittal reconstruction.



Surgical treatment

Surgery was performed 10 days after the trauma. Under general anesthesia and nasotracheal intubation, a high submandibular approach was performed on the right side. The fracture site was exposed and the fracture anatomically reduced. The smallest bone fragment, located on the posterior edge of the ramus, was removed as it was too small to be fixed. Internal fixation was carried out using a single TCP plate with 9 x 2.0 screws of 5 mm length. Closure was performed layer by layer on a suction drain (Figure 2).



Figure 2. Surgical treatment. **A.** Intraoperative view showing the displaced multi-fragmented fracture of the right condylar base through a high submandibular approach. **B.** Intraoperative view showing an anatomical reduction of the right condylar base fracture and the fixation with a 9-holes TCP plate with nine 2.0 screws.



Postoperative treatment

An orthopantomogram was performed on the first day after surgery. The drains were removed 2 days after surgery. The patient did not have a maxillo-mandibular fixation. A mixed diet was prescribed for 6 weeks. The suture was removed 10 days after surgery. Physiotherapy was prescribed 2 weeks after surgery. Ten weeks after the surgery, the patient was pain-free, had regained normal mandibular function, could put back her dentures, and resumed a normal diet. Follow-up radiographs (10 weeks) revealed an anatomical union of the fracture. We do not recommend removing the plates and screws from the condylar region (Figure 3).

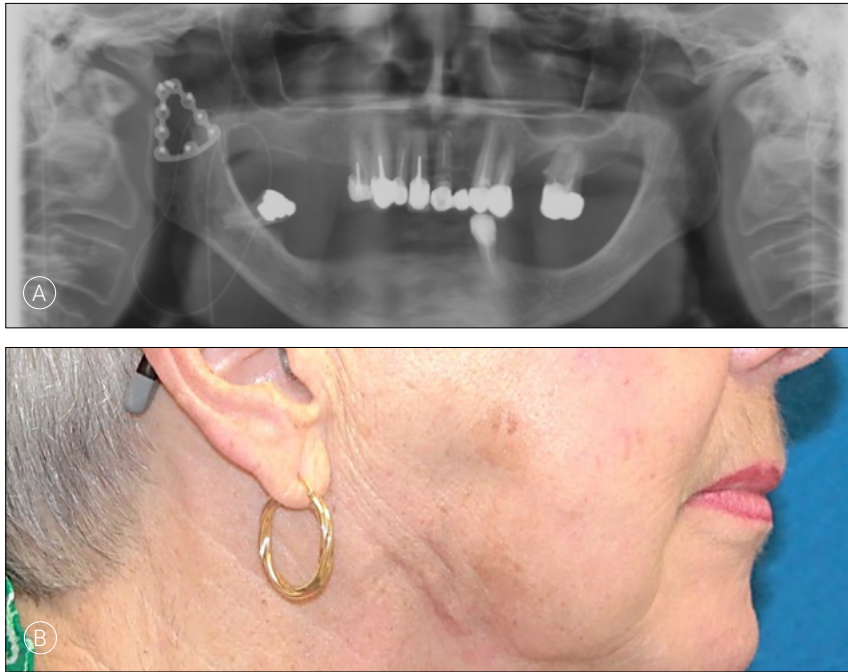


Figure 3. Postoperative findings. **A.** Orthopantomogram showing an anatomical reduction of the condylar base fracture. **B.** Postoperative appearance of the scar 10 weeks after the surgery.



Conclusion

Open reduction and internal fixation of condylar fractures is a safe surgical treatment with a low complication rate and a predictable morphological and functional outcome. The MODUS 2.0 range is perfectly suited to trauma surgery of mandibular condylar fractures, including multi-fragmented fractures in partially edentulous patients.



References

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