

patient was invited to perform a bone scan to evaluate radiopharmaceutical uptake and the possible presence of other skeletal lesions, as indicated by the hospital protocol for cases of suspected fibrous dysplasia. From the performed scintigraphic examination a significant asymmetry of the distribution of the osteotropic tracer on the left lower jaw was highlighted. To confirm the diagnostic suspicion of fibrous dysplasia, a biopsy was performed by taking a wedge of fibrous tissue from the area of the mandibular body which was then sent to the pathologist for histological examination. Having ascertained the nature of the lesion, a conservative surgical approach was therefore deemed appropriate, aimed at restoring the bone size of the mandibular body without intervening on the branch, where the lesion did not have an extension such as to cause aesthetic alterations. The surgery involved an osteotomy with removal of the hypertrophic segment and a curettage of the bone gap with removal of fibro-osseous particulate and of the included tooth. The flap was then closed by a single interrupted suture which was then removed after one week; the patient was monitored until the wound was completely healed.

**Results:** The final result was satisfactory with a restoration of facial aesthetics and no neurological consequences. After 3 years from the intervention, a Cone Beam control examination was performed which showed the maintenance of a good alveolar morphology and the partial reossification of the defect.

**Conclusions:** FD is a rare condition that can frequently involve the facial district. The lesions are generally asymptomatic but may cause significant functional and aesthetic complications. Three-dimensional radiology and bone scintigraphy can help the clinician in identifying this pathology, but the diagnosis is not always easy and cannot in any way disregard histopathological examination. The indication for surgical treatment is not absolute, but a careful evaluation must be performed by the clinician, based on the location of the lesions and the aesthetic and functional implications that these may entail, reserving a more radical approach to cases of suspected neoplastic evolution.

### Upon surgical management of two different types of pathological fractures caused by hidden cysts

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**Aim:** Pathological fractures of the maxillary bones are

quite rare; they occur when a weakening of the bone is generated by unrecognized bone diseases or surgical practices and so the fracture margin results in close proximity to the lesion. In this paper we describe the different surgical management of two maxillary bone's fractures related to cysts, in order to promote a new surgical approach.

**Methods:** Examining the CT scan of our first patient, a 54-year-old woman with a history of accidental trauma, not only a zygomatic-maxillary complex (ZMC) fracture was found, but also an intrasinus cystic lesion (22.5 x 28.8 mm) that had been expanded massively in the anterior and lateral walls. At first, alterations in cutaneous sensitivity or damage to eyesight were excluded; subsequently oral antibiotic therapy was prescribed and after 4 days a surgical session in GA was planned. During surgery we recognized that the right buccal cortex of the maxilla was deformed by the lesion. After isolation of the right infraorbital nerve, the maxillary fracture was reduced, fixing it with a microplate and titanium screws. Necrotic teeth 15 and 16 were extracted (the apices were included in the lesion) and the cyst was easily enucleated using the bone gap created by the fracture's margin. Then the anterior maxillary wall was replaced and, in order to overcome bone fragility, a large titanium plate was fixed. The procedure ended with reduction and fixation of other fractures and intraoral and cutaneous sutures. Further on, a 21-year old patient came to our observation with a traumatic mandibular fracture resulted from a scuffle. The physical examination excluded paresthesia, but showed altered occlusion and mandibular excursions. OPT and CT showed a left paramedian fracture of the mandible and another one near tooth 38; moreover, as occasional finding, a cyst was detected. After 6 days during surgery under GA, a full thickness flap, from tooth 33 to 43, was raised and a traditional approach was chosen by opening a vestibular bone trap helped by piezoelectric instrument. Within the endosseous cavity only blood and minimal residuals of soft tissue were found. Finally the bone trap was repositioned, the fractures were reduced using miniplates and fixing screws and the flap was repositioned and sutured. At the end of the surgery, an intermaxillary fixation was applied and maintained for 15 days.

**Results:** Histological examination of the first case gave a diagnosis of odontogenic cyst. At 13 days after surgical session the facial symmetry and the physiological eye mobility were restored; the surgical wound was on way of consolidation. The histological examination of the fragments found within the bone deficiency that had caused the mandibular fracture confirmed a diagnosis of SBC. The last check (within 21 days) showed: good stability of the applied titanium plates, optimal healing of hard and soft tissues and physiological mandibular movements.

**Conclusions:** Using the same surgical time to enucleate cyst

and reduce a pathological fracture has the rationale to improve postoperative morbidity and prognosis. Therefore, if the more traditional approach has its undoubted value, the opportunity to access the cystic lesions by using the gap caused by the fracture line, the way we decided to approach our first case, should be, in our opinion, taken into serious consideration in similar clinical and surgical situations.

### CBCT radiological features as predictors of nerve injuries in third mandibular molar extraction

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**Aim:** The surgical extraction of impacted mandibular third molars exposes the patient to the risk of peripheral neurological injuries. The first aim of this work was to study the distribution of radiographic proximity of the third molar to the inferior alveolar canal, considering Maglione's Classification, in a population at risk. The second aim was to evaluate the influence of specific factors (age, gender, operator experience, duration of surgery, depth of impaction, absence of corticalization) on the development of neurological complications.

**Methods:** This prospective observational cohort study was conducted on 378 patients, undergoing third mandibular molar's extraction, in a year's time. The patients were informed about the study procedure and informed consent was obtained.

Surgical procedures were performed in a standardized way, using the same surgical and pharmacological protocols. Each patient underwent first radiologic investigations (OPT and/or intraoral radiography) and 193 patients underwent CBCT scan, because of diagnostic suspect of NAI proximity. Preoperative and postoperative data were collected. The patients were visited again for suture removal after seven days and postoperative neurological disorders were investigated. A therapy with ALAnerv® was prescribed and a thorough follow up at 14 days was applied in order to monitor the development of symptoms until the eventual resolution. At the end of one year period, data collected were statistically processed using the Pearson chi-square test for evaluating variables distributions within the population with paresthesia with respect to patients without complications.

**Results:** Results showed a significant prevalence of teeth belonging to 3a and 3b classes, according to Maglione classification, in which the mandibular canal runs touching the tooth apically or buccally. 12 patients (3.17%) developed a neurological

complication. 1 patient (0.26%) showed a permanent NAI paresthesia. 6 patients (1.58%) suffered IAN complications, 4 patients (1.06%) LN complications, 1 patient (0.26%) IAN and LN complications, 1 patient LN and BN complications. 1 patient showed dysesthetic symptoms in the region innervated by IAN. Third molar's lingual position in close contact with IAN (classes 4a and 4b) was correlated with increased risk of paresthesia. Age older than 25 years was statistically associated to neurological risk, probably due to the differences in bone biodynamics and regenerative capacity of nerve trunks in youth age. A statistically significant correlation was noted between longer duration of surgery procedures and neurological injuries. Operative time could influence postoperative edema and could be directly proportional to the intrinsic difficulty of surgical extraction.

**Conclusions:** Classes 4a and 4b of Maglione's classification, age older than 25 years and operative duration longer than 30 minutes represent indicators of increased risk for neurological complications in mandibular third molar surgery.

### A rare case of mandibular exostosis at the mental hole

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**Aim:** Exostoses are localized, non-pathological bony protuberances that arise from the cortical and sometimes from the spongy bone. Tori mandibularis are the most common exostosis of the jaws. The purpose of the present study is to report an atypical case of mandibular exostosis.

**Methods:** A 22-year-old male patient reported having a hard and asymptomatic swelling at the right side of the mandible, present for many years and slowly increased over time causing difficulty in maintaining proper oral hygiene as well as aesthetic and functional problems. The swelling, which was already perceptible extra-orally, on both inspection and palpation, appeared as a sessile mass of about 1.5 cm of maximum anteroposterior diameter, located on the buccal wall of the right mandible at the level of the canine and the first premolar, which were vital at the cold test. It was covered by normotrophic mucosa, hard-wood in consistency and painless on palpation. On the orthopantomogram radiograph, a roundish shaped homogeneous radiopaque area, located at the level of the lower right premolars, was clearly visible. The subsequent dentascans CT revealed that the swelling