

Wisdom Teeth in Adults. Strategy and Management Based on a Rare Case.

By Dr. Benoît Philippe, UAE

Extractions of wisdom teeth in adults are known to have sometimes certain peculiarities in particular ankylosis and increased frequency of extensive cystic lesions favouring immediate or secondary iatrogenic fractures.

The objective of this publication is to present, from a specimen case as per the size and two-sidedness of the abnormalities noted, the thinking that preceded the surgical procedure and the execution of the surgical act.

Diagnosis Circumstances

The patient is an adult male aged 48, without specific medical and surgical history. He was referred for medical advice and possible surgical care with regard to his asymptomatic impacted third molars. The clinical silhouette contrast with the radiographic table found.

Dental Pan

Four (4) impacted third molars are highlighted. 38 is positioned along the dental pedicle, inverted and shows a pericoronar cyst in the vicinity of the dental nerve. 48 vertical is particularly low-located, its roots projecting on the area of the basilar border. 28 and 18 included high-located, show divergent roots positioned in the sinus cavities. Radicular ankylosis is objectified to the absence of periradicular radiolucent area. (Figure 1)

Scanner

The computed tomography examination specifies the diagnosis and confirms the surgical difficulty of these extractions.



Figure 1



Figure 2a

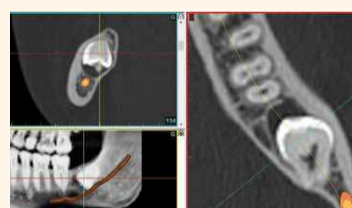


Figure 2b

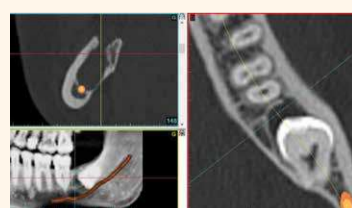


Figure 2c



Figure 2d

At the Mandible

-38, in addition to its close proximity to the dental pedicle it shows a pericoronar cyst in contact with the inferior alveolar nerve. Its crown, inverted and extremely large stresses its retentive character (Figures 2a to 2d) 48, vertically positioned, is located on the lingual side of the inferior alveolar nerve; its roots contained in the lingual table. The apexes are located below the mylohyoid muscle in immediate contact with the submandibular gland and near "the facial artery that runs through the posterior superior part of the gland before turning around the bottom edge of the mandible" (1). 48 shows a pericoronar cyst developed mainly on the distal side of its crown. (Figures 3a to 3d).

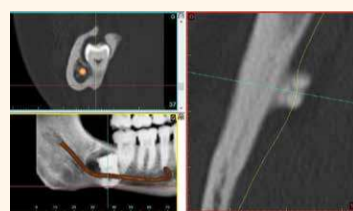


Figure 3a

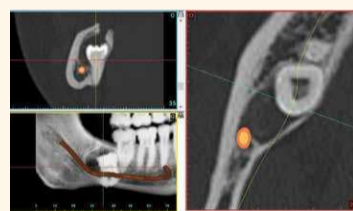


Figure 3b

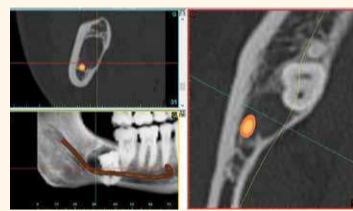


Figure 3c



Figure 3d

At the Maxilla

Two maxillary wisdom teeth high-positioned, leaning against the pterygo-tuberosital junctions and which endo-antral roots are divergent. 28 shows a very large intrasinus lesion of liquid density, not visible in the dental panoramic, filling substantially all of the sinus cavity (Figures 4a and 4b). Although asymptomatic and despite a significant risk of intraoperative and postoperative complications in such a context, the extraction of mandibular wisdom teeth and the extraction of the left maxillary wisdom tooth are confirmed. Indeed, as regards 38 and 48, the inevitable development of bone defects (cystic lesions) inevitably exposes to:

- A mandibular fracture
- An infectious decompensation requiring urgent extraction (with an increased risk of intraoperative complications due to low accessibility generated by the trismus accompanying the infection),
- The progressive and fatal destruction of the inferior alveolar nerve (we note on the right and on the left the disappearance of the bony canal in the vicinity of the pericoronar cysts. The existence of adhesions between

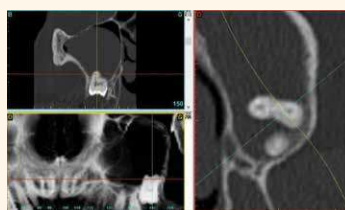


Figure 4a

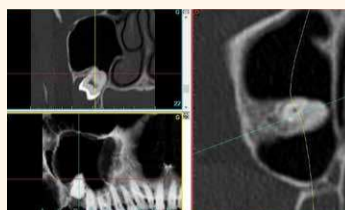


Figure 4b

the cystic envelope and the pedicles fosters (besides the risk of bleeding) nerve traumas (Figures 3d and 2d). Concerning 28, the subtotal development of the endo-antral cystic lesion exposes in a near future to a sudden infectious decompensation by complete blockage of the sinus. Because of the high risk of oro-antral communication, 18 clinically and radiologically asymptomatic is maintained as it is (there is especially no endo-antral image).

Information and Informed Consent Strengthened

The surgical indication is confirmed to the patient despite the absence of symptoms. The option of general anaesthesia is selected because of the difficulty of the surgical procedure.

Given the mandibular anatomical lesions and especially their bilateral nature, the information provided to the patient insist on the increased risk of intraoperative and postoperative risk of mandibular fracture and destruction of the alveolar nerve by direct hit (section, burning) or indirect hit (tear in case of fracture). The information stresses the same way on the risk of direct or indirect hit of the lingual nerve itself particularly fragile and located in the immediate vicinity of the roots of 48. Because of the high-location of 28 and the divergence of its roots, the risk of oral sinus communication is clearly indicated.

Surgical Strategy

In order to perform the surgery in the best technical conditions (especially in the absence of trismus as a result of an infectious decompensation) it is recommended to perform these extractions "in cold situation" and in two times (high fracture risk). 38 and 28 are programmed in a first phase and 48 in a second phase to 6 months.

Surgical Procedures and Anesthesia

In order to have the best accessibility, the intubation is performed using an endonasal probe during both surgeries.

Concerning 38: several technical features are worth mentioning:

- The route for the approach and the separation are expanded (the incision covers the entire sillion of 37 and the retromolar triangle and is completed by two long discharge incisions)
- The use of ultrasound allows, due to ankylosis, an efficient cleavage between the dental tissue and the bone tissue
- The separation of the cystic lesion is performed using the micro raspatory on the flat.

Clinical Case

Given the inflammatory adhesions, a special attention is given to the lower pole of the cystic lesion :

- The enucleation of the pericoronar cyst is performed without any pulling on its envelope.

Concerning 28, the sulcular incision spreads from 26 until the impacted tuberosity, completed by two wide vertical discharge incisions led until the bottom of the vestibule.

The vestibular osteotomy carried out using the piezosurgery, spreads over the entire height of 28. The cystic lesion (polyp) is enucleated in full (Figure 5).

Concerning 48, despite a widened approach path (in 47, the vestibular and lingual sulcular incision is extended from the distal surface of the tooth until the anterior edge of the ramus), the procedure is to keep intact the outer table and the basilar margin of the mandible. The extraction is performed through the lingual path. Careful subperiosteal separation concerns the lingual table with regard to 47 and the retromolar triangle. A malleable blade to protect



Figure 5: 28, pericoronar cyst and polyp endo-antral.

the lingual nerve is gradually positioned in the separation space.

The double vertical osteotomy of the lingual table framing 48 impacted is performed with ultrasound under heavy irrigation with refrigerated serum. A controlled fracture of the lingual bone flap made with Obwegeser raspatory will complete the procedure. 48 is lingually dislocated (Figures 6a to 6c).

In addition to the systematic recommendations given to the patient, preoperative and postoperative information insist particularly on the prevention of secondary mandibular fracture (soft diet for 45 days) and on the prevention of oro-antral communication (sneezing mouth open and gentle nose blowing during 45 days).

The histological analysis of the mandibular lesion confirms the diagnosis of cysts with Malpighian coating and eliminates any unusual or suspicious element of malignancy.



Figure 6a: Double osteotomy of the lingual table with ultrasound.



Figure 6b: Hernia of the submandibular gland in the extraction site.

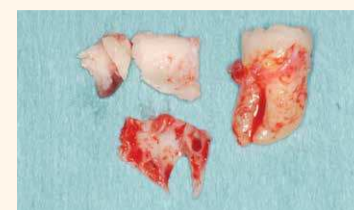


Figure 6c: 48, lingual and alveolar aspect and Retromolar triangle (2 fragments).

Postoperative, Medium Term Monitoring

Apart from an acute painful episode on the right side that occurred during chewing on the third postoperative week (without occlusion disorder or pathological radiographic image), no complication was noted and in particular no fracture or nerve symptoms (dental nerve, lingual nerve) in immediate post-operative and secondary postoperative period (due to scarring mechanisms in the vicinity of nervous pedicle).

The panoramic shot of late medical supervision reveals a satisfactory bone healing; in particular the disappearance of radiolucent images in 38 and 48 and the absence of opacity in the left sinus cavity which is a proof of a good ventilation (Figure 7).

Conclusion

With impacted wisdom teeth in adults, the importance of anomalies (ectopia, ankylosis, cystic lacuna, nervous vicinity) imposes an increased obligation to provide further information. Nevertheless, with lesions having a possible risk of acute infectious decompensation, the preventive extraction in the absence of infectious lockjaw seems to be recommended. The two-sidedness of the lesions imposes a two-step procedure. Despite the implementation of a sequence and a suitable surgical



Figure 7

technique, nervous or fracture complications are always possible due to adhesions, ankylosis and loss of preoperative cystic and postoperative iatrogenic bone substances.

References

P. Kamina: "Précis d'Anatomie Clinique", volume II 2nd Edition Maloine 204 302-303 [DOI](#)

Dr. Benoît Philippe
Maxillofacial Surgery
and Stomatology
Dr. Roze & Associates
Dental Clinic



Villa 747 Jumeirah Beach Road
Umm Suqeim 2, Dubai, UAE
Tel: +9714 388 1313
Email: info@dradubai.com