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

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Extractions of wisdom teeth in adults are known to have sometimes certain particularities 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-dimensionality 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 situation contrast with the radiographic table found.

Dental Pan

Four (4) impacted third molars are highlighted: 38 is positioned along the dental pedicle, ventral and shows a pericoronal 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 38 included high-located, show divergent roots positioned in the sinus cavities. Radicular ankylosis is objectified to the absence of periodontic radiolucent area. (Figure 1)

Scanner

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

At the Mandible

38, in addition to its close proximity to the dental pedicle it shows a pericoronal cyst in contact with the inferior alveolar nerve. Its crown, inverted and extremely large stresses its retentive characteristic (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 apices are located below the mylohyoid muscle in immediate contact with the submandibular gland and near “the facial tunnel” which runs through the posterior superior part of the gland before turning around the bottom edge of the mandible” (Figure 1). 48 shows a pericoronal cyst developed mainly on the distal side of its crown. (Figures 2a to 2d)

The cystic envelope and the pedicles border (beside the risk of bleeding) nerve traumas (Figures 3a and 3d). Concerning 28, the submental development of the endo-antral cystic lesion exposes in a near future to a sudden intrasinusal decompression by complete blockage of the sinus because of the high risk of oro-antral communication, 38 clinical and radiologically asympomatic is maintained as it is (there is especially no endoantral communication).

Information and Informed Consent Strengthened

The surgical indication is confirmed to the patient despite the absence of symptoms. The option of general anesthesia 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 intraoperative and postoperative risk of mandibular fracture and destruction of the alveolar nerve by direct hit (section, burning) or indirect hit (nerve 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 localization 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 trauma as a result of an endoantral decompression) 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 Anaesthesia

In order to have the best accessibility, the intubation is performed using an endoanesthetic 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 sillon of 37 and the retromolar triangle and is completed by two low dissection 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 pericoronal cyst is performed without any pulling on its envelope.

Concerning 48, the subalveolar incision spreads from 26 until the impacted tuberosity, completed by two wide vertical dissection incisions led until the bottom of the vestibule.

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

Concerning 28, despite a widened approach path (in 47, the vestibular subalveolar 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 the lingual nerve is gradually positioned in the separation space.

The double vertical ostotomy 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 Ohrwegner 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 (oxygen mouth opening and gentle nose blowing during 45 days).

The histological analysis of the mandibular lesion confirms the diagnosis of cystic entity of alveolar origin and eliminates any unusual or suspicious element of malignancy.

Postoperative, Medium Term Monitoring

Apart from an acute painful episode on the right side that occurred during chewing on the third postoperative day, the postoperative cystic and postoperative iatrogenic bone substances.

The panoramic shot of late medical supervision reveals a satisfactory bone healing, in particular the disappearance of radiolucencies 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 anamnesis (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 technique, nervous or fracture complications are always possible due to adhesions, ankylosis and loss of preoperative cystic and postoperative iatrogenic bone substances.

References


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Figure 2c

Figure 4a

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

Figure 4b

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

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

Figure 6c

Figure 7

Figure 8

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Figure 44

Figure 45

Figure 46: Inguinal and oblique aspect and Retromolar Triangle (2 fragments)