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Clinical Image
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Modified Coronoidectomy for Assured Retrieval without Architectural Damage: A Novel Technique

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Clinical Image

Coronoidectomy is not an uncommon surgical procedure in maxillofacial practice for the management of trismus. Since temporalis is powerful elevator muscle of the jaw and its hyperactivity in such cases stimulates subperiosteal bone deposition, manifest as elongated coronoid process in chronic infection, temporo-mandibular ankylosis or even long standing trismus after third molar surgery. Mandibular coronoid process as a source of autogenous bone graft can provide sufficient quantity and quality of bone for maxillofacial reconstruction. Being intra membranous ossification, this graft has delayed re-sorption property, hence widely used for orbital floor reconstruction in blow out fracture, augmentation for implants, reconstruction of facial buttress, ramus- condyle unit reconstruction in the management of TMJ ankylosis [1,2]. Many times cases of absolute trismus also require coronoidectomy as the attachment of temporalis muscle over the coronoid process also pulls the jaw in upward direction. Though many techniques had been proposed for the retrieval of coronoid process but inadvertent slippage in to the infra-temporal fossa or loss of anatomical architecture is more likely due to temporalis pull even with the application of Kocher's forceps or large hemostat which is commonly used to grasp the coronoid process. We proposed a modification in the technique which facilitate easy retrival and keep the anatomical architecture intact. After marking the cut for coronoidectomy, a hole was drilled 5 to 6 mm above the marking with 701 burs (Figure 1). As per the harvesting technique (i.e intraoral or extraoral) this hole also should be 5 mm away from the anterior border of coronoid process in cases of intraoral approach and 5 mm away from posterior border of coronoid process in cases of extra oral approach while at least 5 mm above the site of osteotomy site to prevent the cut through the bone. A 26 gauge stainless steel wire then pass through this hole and both end of the wire twisted together and secured with twister

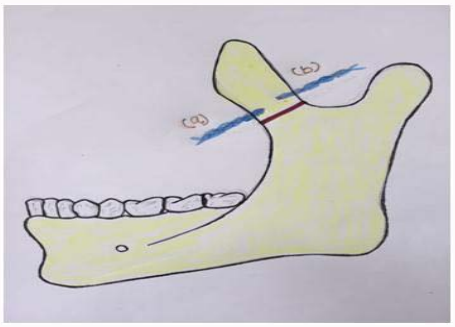

Figure 1: Line diagram depicting the technique of coronoidectomy (a) intraoral approach (b) extraoral approach.

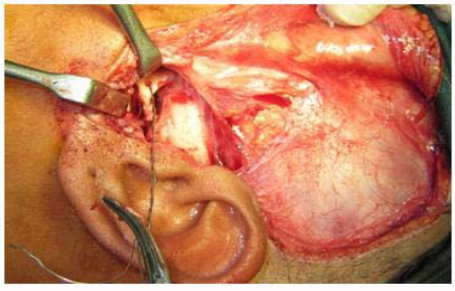

Figure 2: Secured wire over the coronoid process.

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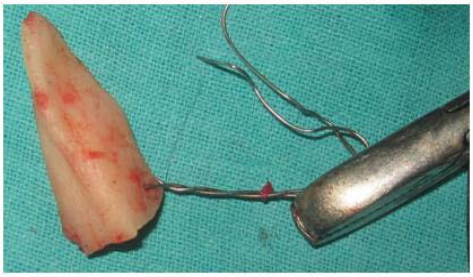

Figure 3: Retrieved coronoid without architectoural damage.

before the final osteotomy cut. With firm pressure pull the coronoid process outward and with the help of molt periosteal elevator strip off the temporalis muscle from its attachment over coronoid process simultaneously (Figure 2 and 3). With this modification we have found easier and assured retrieval with preservation of architecture of coronoid in more than 30 cases for its various applications as auto-graft. Author also observed that definite retrieval of coronoid process not only helps in post operative physiotherapy but also reduce the chances of re-ankylosis thereafter.

References

1. Mintz SM, Ettinger A, Schmakel T, Gleason MJ. Contralateral coronoid process bone grafts for orbital floor reconstruction: an anatomic and clinical study. J Oral Maxillofac Surg. 1998;56(10):1140-4.

2. Bansal V, Mowar A, Dubey P, Bhatnagar A, Bansal A. Coronoid process and residual ankylotic mass as an autograft in the management of ankylosis of the temporomandibular joint in young adolescent patients: a retrospective clinical investigation. Br J Oral Maxillofac Surg. 2016;54(3):280-5.