

Original article:

Use of Modified Retro-mandibular subparotid approach for treatment of Condylar fracture: a Technical note

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Abstract:

condylar fracture is one of the most common site of mandible fracture. Open reduction and internal fixation of condyle is usually done by retromandibular transparotid approach. This approach is associated with risk of facial nerve damage.we are going to introduce novel approach can be termed as “modified retromandibular subparotid approach” to reduce and fix the condyle fracture with lesser complication in comparison to standard retro-mandibular approach

Keywords: Condyle fracture, Modified Retromandibular incision ,Subparotid approach

Introduction:

Condylar fractures account for 25-35% of mandibular fractures and are one of the most controversial maxillofacial injuries regarding diagnosis, classification, and treatment.^[1]

The current most popular approaches of open reduction and internal fixation of condylar fractures the transparotid and retroparotid,^[2] have a risk of damaging important branches of the facial nerve(as much as 27% as reported by Croche et al).^[3] Hence, we propose a newer, easier technique for condylar fracture to preserve these vital structures.

Material & methods:

A 25 year old patient came to us with bilateral fracture mandible, simple displaced right sub condyle and compound displaced at right & left parasymphysis after a road traffic accident. Surgery was performed under General Anesthesia with

nasotracheal intubation. After infiltration of local anesthetic, incision was made using the proposed Modified Retromandibular Subparotid approach. A 2.5cm incision through skin and subcutaneous tissue was placed 0.5 cm (fig1) below the attachment of the ear lobe just behind the posterior border of ramus. Extensive undermining was done in this plane^[4] anteriorly short of facial artery and superiorly upto zygomatic arch & inferiorly upto lower border of mandible which allowed ease of retraction.^[5] Then scant Platysma, SMAS capsule & parotid capsule were then incised sharply parallel to posterior border of mandible. Holding sutures were taken on both ends for later identification and water tight closure of parotid capsule to prevent formation of parotid fistula. The tail of the parotid was then identified, lifted off masseter muscle and retracted superiorly(fig2). At this level generally two branches

of facial nerve were visible directly upon the masseter. These branches would either be the buccal and marginal mandibular or the upper buccal & lower Buccal and marginal mandibular on the level of the incision. Skeletalizing both the branches enough as to retract them under the Langhenbach's, one above the field of surgery and one below, a medium sized artery forceps was introduced into the masseter deep enough to touch the lateral surface of the ramus. Upon touching the bone, the artery forceps was opened along the long axis of the masseter (fig3). Subperiosteal dissection was done and the fracture site exposed without the need to incise the masseter

Discussion:

The advantages of this approach read as under:

1. The length of the incision was almost a 1 cm less than the conventional Retromandibular approach, thus giving better esthetics.
2. The Masseter muscle was not incised at pterygo-masseteric sling as in case of retro-mandibular retro-protid approach, thus decreasing bleeding and obviating the need for suturing later.
3. The substance of the parotid gland was not entered, thus reducing the chances of facial nerve injury.

at any point. The fracture site was then exposed. At this time, ensure complete relaxation under GA to avoid resistance from the lateral pterygoid while reducing the proximal segment. Length of the ramus was regained by directly pulling the sigmoid notch down with a bone hook. It may also be regained by placing intra oral bite blocks or by pulling the posterior teeth down with a Langhenbechs Retractor. The patient placed in IMF and fixation achieved with a delta plate and monocortical screws (fig4). Pre (fig5) and post operative ct scan was taken to evaluate reduction and fixation of mandible fracture (fig6).

4. Dissection of masseter was done under direct vision of the two nerves, thus reducing the chance of nerve injury to minimal.

Conclusion:

reduction and fixation of condylar fracture via modified retromandibular incision and subparotid approach is associated with lesser tissue dissection and

Ethical approval:

All procedure performed in this study involving human participants were in accordance with ethical standard of institutional and/or national research committee and with 1964 Helsinki declaration and its later amendments or comparable ethical standard.

Informed consent: informed consent has been taken from all patients involved in study

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Fig 1: modified retro-mandibular incision start 1cm below the ear lobule attachment.

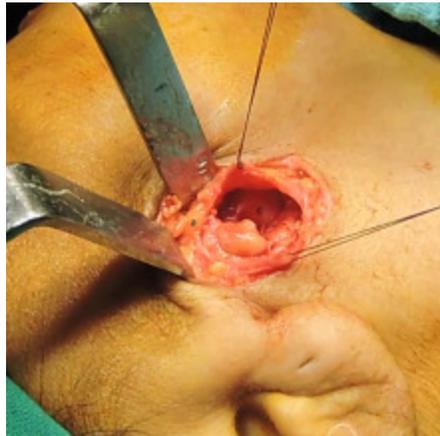


Figure 2: . Parotid capsule incised, tail of parotid gland exposed .



Figure 3: Masseter muscle bluntly dissected longitudinally after retraction of parotid gland superiorly.



Fig 4: Fixation of condyle fracture with delta plate



Fig 5: Pre op Ct scan of mandible fracture.

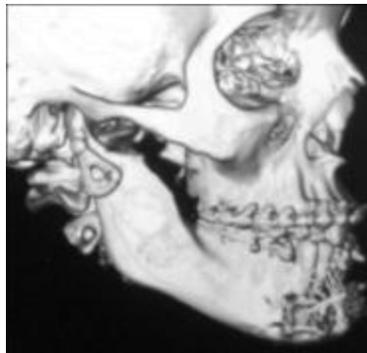


Fig 6: Post op ct scan of mandible fracture.

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