Intra-alveolar Extraction of Impacted Distoangular Mandibular Third Molars: A Novel Technique

Abstract
Recent trends in maxillofacial surgery are to reduce the trauma to the adjacent soft tissue. The distoangular impaction presents a challenge to the maxillofacial surgeon and also results in more surgical morbidity. Here, we present a minimally invasive extraction technique for the distoangular mandibular third molar impaction.

Keywords: Distoangular impaction, intra-alveolar extraction, wisdom tooth

Introduction
Surgical removal of the third molar is the most common procedure carried out by a maxillofacial surgeon in the dental office.\(^1\) One can either carry out this procedure with a chisel and mallet, the lingual split technique or the bur/Piezotome technique.\(^1,2\) Transalveolar techniques when compared to intra-alveolar are time-consuming, expensive and can cause significant morbidities such as swelling, pain, trismus, dry socket, and nerve injury.\(^1,2\) The percentage of complications following third molar surgeries range from 2.6% to 30.9% depending on the type and the level of impaction.\(^3,4\) Distoangularly impacted mandibular molar teeth presents a challenge for a specialist maxillofacial surgeon because of distal path of exit and the lack of interdental space for elevator application. According to the Pederson scale for operative difficulty, the distoangular impaction is scaled between moderate to very difficult.\(^5\) In our technique, we use the European pattern of conventional mandibular cowhorn forceps for the removal of distoangularly impacted tooth. In general, the principle of mandibular cowhorn forceps is to engage between the bifurcation of the mandibular molars, below the bone crest. This causes displacement of the tooth by an upward (occlusal) movement or by splitting the mesial and distal roots. In most of the distoangular teeth, the roots are either conical or the bifurcated roots has a distal curvature; this also favors for the superior displacement of the teeth following the apical pressure by the cowhorn mandibular forceps. The intraoral periapical radiography of the patient showing the distoangular mandibular third molar in Level I and Position A of Pell and Gregory classification, 1933 [Figure 1]. Based on this principle, in our technique, the cowhorn forceps are first placed between the second and third molar within the embrasure and below the cementoenamel junction [Figures 2 and 3]. Following this placement, an apical pressure is applied between the second and third molar, and now, the Cowhorn forceps design acts such as two-elevators working in unison both buccally and lingually. The arc of rotation also favors the superior or distal movement of the teeth and the displacement of distoangular tooth from the socket [Figure 4]. Sometimes a slight mesiodistal/linguobuccal movement of the forceps is given to complete the procedure. The displaced distoangular tooth can then be easily removed with a mandibular cowhorn or a mandibular crown forceps. This technique can rarely cause distal root fracture, but this is easily retrievable than the mesial root fracture which occurs commonly in distoangular impaction. The author recommends this technique for the removal of distoangular mandibular impactions in Level I and II and Position A and B (Pell and Gregory classification, 1933) as a closed intra-alveolar method. In case of proximal caries between second and third molar or a missing first molar,
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this technique is contraindicated to prevent any iatrogenic injuries.

Conclusion

The advantages of this technique is a closed intra-alveolar extraction, thereby eliminating the need for the open surgical method and requires very less armamentarium reducing the surgical morbidity and is less time-consuming and cost-effective also.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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