MICRO LABS LIMITED

SMART DENTAL UPDATES

Dear Doctor,
Greetings from Micro Labs Limited.
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Should you require any specific article or medical information, please feel free to contact us at medicalservices@microlabs.in

Looking forward to your valuable feedback

Best Regards,
Medical Team, Micro Labs Limited

Role of endodontic treatment with a reciprocating single-file, single-cone approach in apical periodontitis healing and postoperative pain

The use of reciprocating motion with nickel-titanium (NiTi) files for root canal preparation was an important advance in endodontic therapy, primarily because it extends the lifespan of NiTi files and reduces treatment time.

The long-term success of endodontic treatments performed with a protocol that includes reciprocating single-file root-canal preparation has not yet been investigated by either prospective or retrospective studies. Therefore, this randomized controlled pragmatic clinical trial evaluated the clinical effectiveness of endodontic treatment of anterior teeth with apical periodontitis performed with a reciprocating system (single file and single cone).

One-hundred and twenty nonvital anterior teeth with apical periodontitis were randomly treated using either a reciprocating single file followed by matching-taper single-cone filling or a hand file and lateral compaction filling. Postoperative pain was assessed during the 7 days after the treatment, using a visual analogue scale and a verbal rating scale. Apical healing was assessed using the periapical index score after a 12-month follow-up.

The hypothesis tested was that both protocols were equivalent and present similar effectiveness in healing periapical lesions.

Regardless of the assessment time, no difference in incidence (38%-43% at first 24h), intensity of postoperative pain, and incidence of flare-up (≈ 3%) was observed between the two endodontic protocols. Both protocols resulted in a similar healing rate of apical periodontitis. After 12 months, the success rate ranged from 73% to 78% and the difference between the treatments fell within the pre-established equivalence margin (-0.1; -0.41 to 0.2).

Endodontic treatment combining a reciprocating single file with matching-taper single cone showed similar clinical effectiveness to the treatment using hand-file instrumentation and the lateral compaction filling.

Source: de-Figueiredo et al. *PLoS One*. 2020;15(2):e0227347.

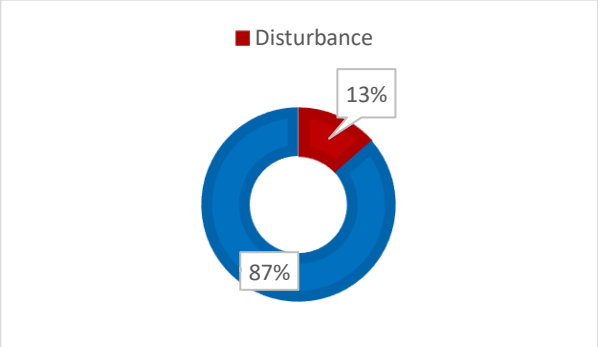
Incidence of Neurosensory Disturbance in Mandibular Implant Surgery - A Meta-Analysis

Implantology has been widely accepted as the mainstay treatment for rehabilitating complete and partial edentulism. However, it is associated with some failures and complications, the most concerning being neurosensory disturbance. Although neurosensory disturbance has been extensively studied, the incidence and cause remains largely variable. Thus, the aim of this systematic review and meta-analysis was to evaluate the incidence, distribution, and recovery rate of neurosensory disturbance.

This systematic review was conducted as per the Preferred Reporting Items for Systematic Reviews and Meta-analyses statement. A structured literature review was conducted using the following databases: PubMed, Science Direct, Cochrane, Ovid, and Google Scholar for reports related to neurosensory disturbance experienced after implant placement in the mandible.

Incidence and recovery rate for 100 person-years was calculated using the Poisson regression model. The risk difference of incidence between anterior and posterior implants was calculated with a random effects model.

Electronic database search yielded 1589 articles; a total of nine articles were selected for the meta-analysis. The risk of neurosensory disturbance was estimated at 13.50/100 person-years (95% confidence interval (CI): 10.98-16.03), with a greater risk with anteriorly placed implants: -0.02 (95% CI: -0.21-0.16) (P = 0.05). The overall recovery rate was estimated at 51.30/100 person-years (95% CI: 31.2-71.4).



Within the limitations of the study, it can be concluded that mandibular implant placement is associated with a considerable risk of neurosensory disturbance. A large proportion of these patients present with spontaneous recovery; however, clinicians must take necessary precautions to avoid such complications. More randomized controlled trials are required to quantify the effect of factors leading to altered sensation during implant placement.

Mandibular implant placement is associated with a considerable risk of neurosensory disturbance

Padmanabhan H *et al. J Indian Prosthodont Soc*. 2020;20(1):17–26.

YK Key Hole Plate for Mandibular Reduction

The plate system is the most popular treatment method for mandibular fractures using open reduction. The plate system was first developed by Hansmann in 1886 as a treatment for iliac fractures in orthopedic surgery. Various types of miniplates have been developed and used for the reduction of facial bone fractures.

It is not easy to apply the plate in the mandibular angle area or the subcondylar area because of the reduced visual field. Thus, researchers have transformed the hole shape of the miniplate into a keyhole shape to solve this inconvenience. The keyhole of the plate then allows the head of the screw to pass through and the plate is pulled into the fracture line. After the screw is inserted into the remaining holes of the plate, the entire length of the first screw inserted is completely inserted.

The purpose of this study was to evaluate the long-term stability of the YK plate, as a follow-up study, by examining the patients who had used the YK plate among the patients with the reduction of mandible fractures and who visited for plate removal.

The medical records of 16 patients who underwent mandibular fracture fixation using a YK plate (group I) and 17 patients who underwent mandibular fracture fixation using a conventional plate (group II). Assessment was then made on malunion, occlusal stability, discomfort during the application, and clinical symptoms.

After the application of the plate, the meantime to removal was 335 days for group I, and the shortest period was 168 days while the longest period was 1000 days. Group II had an average of 349 days. The shortest period was 154 days, and the longest period was 987 days. Clinical data after plate removal of group I and group II showed no plate fracture, screw loosening, TMJ disorder, malunion, or infection in both groups. Clinical examination of the patients showed no cases of malocclusion, occlusal discomfort, or sensory abnormality in both groups.

The YK plate system can be effective tool in the management of the mandibular fracture reduction.

Cheon KJ et al. Maxillofac Plast Reconstr Surg. 2020 Mar 16;42(1):6.