

ABSTRACT

BACKGROUND:

There are many studies in the treatment of mandibular fractures that have been published. The two concepts of osteosynthesis are semirigid and rigid fixation. To overcome the shortcomings of above techniques, three-dimensional miniplates have emerged. This study was designed to evaluate the efficacy of 3D titanium miniplate over Champy's miniplate in anterior mandibular fractures.

AIM:

The purpose of the study was to evaluate the clinical efficacy of three-dimensional titanium miniplates in the management of anterior mandibular fractures by pain, occlusal stability, postoperative infection, postoperative fragment rigidity, wound dehiscence and the outcomes were compared with that of conventional titanium miniplates.

MATERIALS AND METHODS:

This study was done in 20 patients with anterior mandibular fractures. Group A consists of 10 patients in whom 3D plates were used for fixation while in Group B consists of other 10 patients, 4-hole Champy's straight plates were used. The efficacy of 3D miniplate over Champy's miniplate was evaluated.

RESULTS:

There was significantly greater pain in Group B patients at 1st week and 1st month when compared to Group A patients (Mann-Whitney U test). There was significant variation in pain between intervals across each category of Group A and Group B (Kruskal-Wallis test). The postoperative infection, neurological deficit was statistically insignificant (chi-square test). There was no case presented with wound dehiscence. During postoperative evaluation occlusal stability and fragment rigidity were good in all 20 patients.

CONCLUSION:

The results of this study suggest that patients treated with 3D plates showed a lesser postoperative pain and carries low infection rate and lesser area of exposure.

key words:

3D miniplate, Champy's miniplate, titanium miniplates, anterior mandibular fractures