

mean period of IMF in this group was 2.57 weeks (18 days).

In the group in which intra oral approach was used, IMF was not used postoperatively in any patient. Intra operative IMF was done in five patients, while the other five patients, manual reduction were used to establish occlusion.

In the group, in which extra oral approach was used, the complication rate was 21.4% (3 patients): two patients with facial scarring (14.2%) and one patient with malocclusion (7.14%).

In the group, in which intra oral approach was used, the complication rate was 30% (3 patients): one patient with paraesthesia of the lip (10%) and one patient with postoperative infection (10%) and 1 patient with root injury (10%). The overall complication rate in both groups was 25% (6 patients).

## **Discussion**

Many authors have documented the advantages of miniplates, compared with conventional IMF, IMF is either unnecessary or shorter period is needed. Therefore, it allows immediate or early return of function.

In one patient the # was treated by closed reduction and IMF. Postoperatively, radiographs show mal-reduction, the patient was returned to theatre and RIF was used. So we agree with Jaque et al (1997)<sup>[8]</sup> that closed reduction is more likely to require secondary open reduction than primary open reduction.

We agree with Cawood (1985)<sup>[9]</sup> that the miniplate system was easy to use, it require less surgeon experience than other systems (compression plates, reconstruction plates, microplates and resorbable plates).

We agree with Baker (1997)<sup>[10]</sup> and Prein (1998)<sup>[11]</sup> in that titanium miniplates dose not interfere with CT scanning. However, we did not see any starburst artifact associated with miniplates, instead the view was very clear. Three-dimensional (3D) reconstructions of CT scans were very clear and were not degraded by artifacts.

However, the only disadvantages were that the miniplate could not be differentiated from bone (it appears as bone). We conclude that titanium miniplates should be used when subsequent imaging will be needed in the future.

IMF was applied in all patients in which extra oral approach was used because the plates can only be placed along the inferior border of mandible and not along the ideal lines of osteosynthesis. If IMF is not applied, a gap will be created along the superior border of the mandible during function; this movement may lead to infection and delayed healing. The mean period of IMF in this group is 18 days, which is shorter than the time required for healing if IMF is used alone (6 weeks).

IMF was not applied in the patients in whom intra oral approach was used, as the plates were placed along the ideal lines of osteosynthesis. However, the patients were instructed to use soft diet for 2 weeks.

The intraoral vestibular incision is easily and readily performed without the fear of marginal mandibular nerve injury or scar formation. It readily exposes the #. However, the access is limited rendering the plating technique more difficult especially in the mandibular body and angular regions. In addition, there is increased risk of postoperative infection and injury to the inferior alveolar nerve and the roots of teeth. All of these complications occurred in our sample. These complications should not occur with increased in operator experience in the technique.

The extra oral approach is more difficult and there is fear of marginal mandibular nerve injury and scar formation, and is uncomfortable to the patient. However, it provides wide access rendering the plating technique easier. In addition, it eliminates the risk of postoperative infection and injury to the inferior alveolar nerve and the roots of teeth.

The complication rates observed in this study (25%) were above the previous reports. Nakamura (1994)<sup>[12]</sup> reported 15.5% complication rate, while Jaque et al