Mandibular fractures

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Fractures of the mandible are common in the context of facial injury and may frequently involve multiple sites. The common est fracture patterns are parasymphysis and angle fractures, or parasymphysis and condylar fractures (contralateral sites in both cases). The specific sites in the mandible most prone to fractures are shown in Figure 31.8 . It is very important to record the presence or absence of any paraesthesia in the region of the lower lip and chin, which may be the result of damage to the inferior alveolar nerve. Most displaced mandibular fractures are treated with anti- biotics on admission followed by open reduction and internal fixation (ORIF). Typically , titanium miniplates and screws are placed (Figure 31.9) under GA with two or three postoperative intravenous antibiotic doses given. Undisplaced fractures may - be treated conservatively; this may include antibiotics, analgesia and a soft diet for 4 weeks. These patients need to be monitored closely to exclude failure of conservative management, which will commonly be indicated by increasing pain and a change in occlusion. In general, facial bones heal well after about 4 /uni00A0 weeks. Occasionally , if the fractures are severely comminuted and di ffi cult to fix with titanium plates, intermaxillary fixation (IMF) with wires can be considered; however, this is becoming exceedingly rare owing to the advances in osteosynthesis fixation techniques. Simple mandibular fractures treated with the ORIF tech - nique should have two 2-mm-diameter screws on either side of the fracture, engaging a single bone cortex (monocortical). These small plates are load sharing , which indicates that the fractures are reduced and load is shared between the bone - and the plate. With more complex or comminuted fractures, heavy profile reconstruction plates and bicortical screws may be placed as a load-bearing fixation technique. In general, dif - ferent mandibular sites determine the number of miniplates used; for example, a single plate is placed along the line of maximal tension for angle and body of mandible fractures, while two plates are placed 5 /uni00A0 mm apart for parasymphyseal fractures to resist the torsional forces of the anterior mandible musculature. A transbuccal approach through a tiny incision in the cheek skin is frequently utilised for angle fractures to allow placement of screws perpendicular to the plate and the bone. Most condylar fractures can be treated with closed reduc - tion with IMF elastic guidance and a strict soft diet and anal- gesic regimen. However, displaced condylar neck fractures with significant loss of mandibular height are increasingly treated with ORIF techniques. Various approaches can be adopted depending on the condylar fracture location, although the most common approach is transparotid access with a retro - mandibular incision. There have been some advances towards endoscopic-assisted fixation of the condylar fractures in some maxillofacial units. The optimal timing for the repair of a mandibular fracture is within 24–48 hours post injury . For a heavily displaced frac - ture where there is likely to be delay in taking the patient to theatre, a bridal wire that goes around the teeth to temporarily reduce the fractures may be useful in alleviating pain and facil - itating oral intake.

1 3 2 Figure 31.8 Fractures of the mandible. (1) The neck of the condyle is the most common site, followed by (2) the angle of the mandible. (3) The third point of weakness is in the region of the

mental foramen. Figure 31.9 Postoperative orthopantomogram demonstrating /f_i xation of a right angle and left parasymphyseal fracture with miniplates and screws.

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Always look for a second mandibular fracture as contralateral fractures are common It is important to record the presence or absence of paraesthesia in the distribution of the mental nerve Most mandibular fractures are treated with ORIF using titanium miniplates and screw /f_i xation, ideally within 24–48 /uni00A0 hours of injury

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