PATIENT CASE REPORT

Use of Minne Ties Agile® MMF for Closed Mandibular Fracture Treatment in a Patient Traveling from a Distance

A 57-year-old female presented to her local emergency department in Rhode Island after a fall where a CT scan revealed a closed fracture of the right mandibular ramus. A local surgeon evaluated the patient and recommended a closed reduction with maxillomandibular fixation (MMF) using traditional Erich arch bars. By means of researching on the Internet, the patient became aware of the Minne Ties® Agile MMF dental occlusion ties as an alternative treatment option and subsequently emailed a representative at the company who facilitated the connection with the Dr. Elie E. Rebeiz Department of Otolaryngology – Head and Neck Surgery team at Tufts Medical Center in Boston, Massachusetts to consider this technique.

After establishing a connection with the team at Tufts Medical Center, the patient was carefully evaluated in person. There was evidence of malocclusion with early contact of the right maxillary and mandibular molars with a resulting left-sided open bite deformity. She had no associated dental injuries with excellent dentition at baseline. Review of the maxillofacial CT scan confirmed an isolated right-sided minimally displaced, non-comminuted mandibular ramus fracture. After discussing the treatment options and associated risks, the patient wished to proceed with the Minne Ties Agile MMF technique.

The closed reduction was achieved in the operating room with the patient under general anesthesia. A lip retractor was placed and Class I occlusion was achieved with manual manipulation of the mandible (**Figure 1**). A total of eight Minne Ties were applied (**Figure 2**) and tightened proceeding from distal to mesial, alternating between left and right. The MMF was noted to be strong and secure.

Figure 1 - Intraoperative manual manipulation of the mandible to achieve a closed reduction of the fracture.

Figure 2 - Eight Minne Ties were applied to achieve MMF.

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The ties were cut flush with the Minne Ties clasps with a #15 blade (**Figure 3**). During the MMF treatment course, the patient described the Minne Ties to be comfortable without significant irritation of her buccal mucosa. The eight Minne Ties were removed without discomfort using a wire cutter in an outpatient clinic setting without local anesthesia. Three months following completion of MMF, the patient reported that her occlusion was subjectively at baseline. Objectively, there was evidence of Class 1 occlusion with symmetric molar contact (**Figure 4**).

Figure 3 - The Minne Ties were cut flush with the clasps prior to completion of the procedure.

As is demonstrated in this clinical case example, there is a demand for alternative approaches to the standard MMF treatment with wires and Erich arch bars. The patient treated by the team at Tufts Medical Center discovered the possibility of MMF using Minne Ties through information available on the Internet and ultimately was motivated to travel a further distance for treatment with this novel technique. In select patients with good dentition, the Minne Ties Agile MMF product facilitates simple application to achieve MMF, is typically comfortable for patients and atraumatic to remove at the conclusion of the treatment course.

Figure 4 - Three months post-operatively, the occlusion was Class 1 with symmetric molar contact.

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