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Technical Note

Modification of Single Puncture Arthrocentesis-A Technical Note

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Abstract: Arthrocentesis is a simple conservative surgical procedure with minimal invasion performed to flush the inflammed TMJ. This treatment modality has been well in practice since over two decades now. Recently, the concept of single puncture arthrocentesis has been introduced and is gaining wide popularity. We believe that the concept of single puncture has revolutionized the traditional technique of arthrocentesis. Here we demonstrate a modified dual needle device for single puncture arthrocentesis and our modifications of using a smaller gauge needle as well as change in angulation definitely have an added advantage over conventional single puncture technique.

Keywords: Single Puncture Arthrocentesis, TMJ, Modifications

1. Introduction

The studies of arthrocentesis have been conducted from time immemorial and without doubt these studies suggest arthrocentesis is an effective method in reducing pain and symptoms of temporomandibular joint disorders. The conventional procedure [1] involves two needles and two separate puncture sites. This technique has its own limitations and disadvantages; also the chance of complication of facial nerve paralysis is more as per the literature [2, 3]. It was Rahal et al[3] who modified the conventional procedure and introduced a single puncture technique. This brought in a revolution in the technique of arthrocentesis and offers to have less complication than conventional technique. Similar study based on conventional single puncture technique proposed by Rahal et al has been mentioned in literature [4].

2. Technique

We followed Rahal's technique of arthrocentesis with significant modification in the device (Fig 1). Instead of an 18 gauge, we had used 20 gauge needle which we felt would be less traumatic as it had a much thinner diameter. Another problem with Rahal's device was that the two needles were bent at an angle to each other which made it difficult to hold it in the precise position, we also modified that by making one needle bent at 45 degree and other straight which we felt was more comfortable in precisely positioning the device (Fig. 2).

Fig. 1. *Our modifications of Dual needle device.*

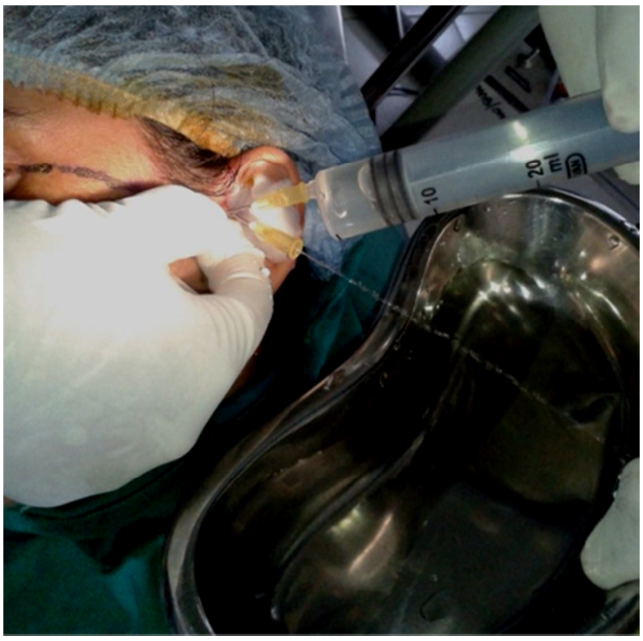

Fig. 2. *Dual-needle device in place and Irrigation fluid can be seen flowing out through the second needle.*

3. Discussion

The major two modifications are in contrary to the standard device mentioned in the literature [3]. The primary modification being, combined diameter of the port of entry smaller than that of the dual needle device used by Rahal et al. [3] This minimised the trauma at the puncture site. These two modifications made the procedure simpler and easy to perform even by inexperienced hands. We have not compared our study with the conventional single puncture technique and it is difficult to establish the added advantage of these modifications other than the logical reasoning. The second modification helps the surgeon to hold the needle precisely and firmly while locating the puncture site. This definitely has added advantage eventhough comparisons have not been done.

4. Conclusion

We believe that the concept of single puncture has revolutionized the traditional technique of arthrocentesis. Our modifications of using a smaller gauge needle as well as change in angulation definitely have an added advantage over conventional single puncture technique [3].

Acknowledgements

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