EFFECTIVENESS OF LOCAL DRUG DELIVERY SYSTEM OF DEXAMETHASONE INFUSED GEL FOAM IN MANDIBULAR THIRD MOLAR SURGERIES

By

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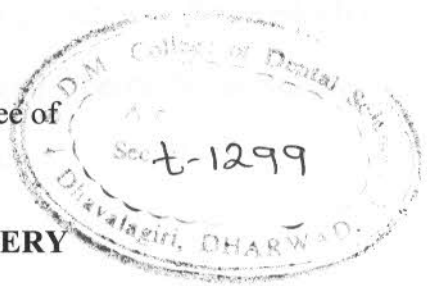

MASTER OF DENTAL SURGERY

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ABSTRACT

Introduction: Mandibular third molar (M.T.M.) surgeries are one of the most commonly performed surgeries in practice and are known to result in a number of post-operative sequelae such as pain, trismus, edema which cause a significant discomfort to the patient. This also impacts the quality of life (Q.O.L.) of the patient post operatively, especially during the first three days. There have been several studies done with respect to peri-operative administration of dexamethasone in patients undergoing M.T.M. surgeries. The studies have also explored various routes of administration of the steroids and studied the impact on post-operative sequelae for each of these methods.

Aims & objectives: To assess the effect of local drug delivery system of gel foam-soaked dexamethasone (D.X.M.) on the post-operative sequelae:

1. Pain
2. Trismus
3. Edema
4. Wound healing

Materials and methods: A double-blind placebo split mouth randomized control trial was conducted in department of Oral and Maxillofacial Surgery, SDM College of Dental Sciences and Hospital, Dharwad. 50 patients indicated for surgical extraction of bilaterally impacted M.T.M.s, from December 2018 to

October 2020, were included in the study. The effect of the local drug delivery system of D.X.M. soaked gel foam on postoperative sequelae was studied.

Results: The local drug delivery system on D.X.M. soaked gel foam was found to **significantly** reduce the postoperative pain and trismus in the early (postoperative day 3 – P.O.D. 3) and late (postoperative day – P.O.D. 7) postoperative period but did not have a significant impact on the postoperative edema and wound healing. Thus, it was effective in improving the postoperative Q.O.L. in patients on the side of M.T.M. extraction where it was used.

Conclusion: The results obtained suggest that using a local drug delivery system for D.X.M. in patients undergoing M.T.M. extractions is effective in reducing the patient discomfort and improving patient compliance and postoperative Q.O.L. The application of this drug delivery system can also be extrapolated to other oral and maxillofacial procedures however, this warrants further research.