TITLE: A COMPARISON OF THE EFFICACY OF SCALPEL VERSUS LASERS IN INCISION AND ITS INFLUENCE ON POST OPERATIVE COMPLICATION IN SURGICAL REMOVAL OF MANDIBULAR 3rd MOLAR, AN IN VIVO STUDY.

ABSTRACT

Background: In modern society the demand for the bloodless operative field, minimal swelling, scarring and much less or no post surgical pain is increasing in oral surgery. These factors increase patients fear towards the surgical removal of 3rd molar. Today the oral surgeon has various option for the surgical removal of 3rd molar, but minimal research is available to provide the comparison of the efficacy of laser and B.P blade in incision during surgical removal of third molar.

Aim of the study: The aim of this study was to compare the efficacy of scalpel and laser in incision and its influence on post operative complication in surgical removal of mandibular 3rd molar using standard clinical parameters.

Materials and Methods: A prospective, randomized in vivo study was conducted in the DEPARTMENT OF ORAL AND MAXILLOFACIAL SURGERY, MADHA DENTAL COLLEGE AND HOSPITAL, CHENNAI. Thirty healthy patients with bilateral impacted mandibular third molars were selected for this study. Patients were randomly divided into two groups namely group 1 and group 2. Scalpel incision and laser incision were used in group 1 and group 2 respectively. The influence of these incisions on ease of access, time required for surgery, post-operative mouth opening,
swelling, pain, wound healing, wound infection, dry socket parethesia and intra op bleeding was evaluated.

**Results:** The results of this study show significant difference with respect to accessibility to surgical site, time required for the surgery, intra operative bleeding, post-operative decrease in mouth opening, post-operative swelling and wound healing. Laser incision provided excellent access to the surgical site as compared to Scalpel incision. Time required for the surgery was least with the use of laser incision, while it was more with scalpel incision. Post-operative mouth opening, post-operative swelling and wound healing were affected more adversely with the use of Scalpel incision while these parameters were least adversely affected with the use of Laser incision. Significant differences were not noted with respect to post-operative pain, wound infection, dry socket and paresthesia.

**Conclusion:** Laser incision is more preferable when compared to Scalpel incision although it may require some practice initially and a more broader study group of patients under each category is recommended.

**Keywords:** Impaction, mandibular third molar, Scalpel incision, Laser incision, post-operative complications.