CO₂ LASER-A surgical tool for benign oral lesions.

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INTRODUCTION

A benign lesion of the oral cavity is a non-cancerous growth that does not spread to other parts of body .Various surgical modalities of treatment are available for these lesions which includes cold surgical resection, Electrocautery and Laser resection. The CO₂ laser is an ideal means of excising benign oral lesions^{1,2} Blood vessels smaller than 0.5mm diameter are sealed spontaneously, allowing good visibility and precision when dissecting through the tissue planes. There is minimal cellular damage adjacent to the plane of excision. Carbon dioxide (CO₂) laser surgery, has become the treatment of choice in many medical institutes, offering rapid and precise tissue dissection, reduced bleeding and post operative pain, low morbidity, minimal scarring and wound contracture and more importantly excellent patient acceptance.³⁻⁵ The aim of this study was to assess the usefulness of CO₂ Laser in management of oral benign lesion.

MATERIAL AND METHODS

30 patients with 30 oral lesions presenting to ENT OPD were treated by CO₂ laser in Deptt.of ENT ,MDM hospital, Dr. S.N.Medical College,Jodhpur. This patients were followed up for a period of 2-5 months.18 patients were males and 12 were females. All the lesions were treated under local anaesthesia using 1% xylocaine with 1:100,000 adrenaline .The CO₂ laser was used in continuous mode at an output power setting of 15-20W. All laser treatments were done by handpiece technique. The laser beam was applied to the oral soft tissue in non-contact treatment mode through handpieces with side suction port attached. The wound left after excision of lesion was not sutured and was left open to heal by secondary intention. Patients were prescribed oral cefixime to decrease the chances of wound infection,NSAID for analgesia. After treatment, the patients were seen for follow up after 1 week, 1 month, 3 months and 5 months.

RESULTS

In the present study, overall cure rate of 100% was achieved. There was no major intra operative or postoperative complication. Two lesions had minor intra operative bleeding which was effectively controlled using diathermy.

DISCUSSION

The usual modalities of treatment for oral soft tissue benign lesion have been scalpel excision, electrocautery. The carbon dioxide laser has certain advantages over the scalpel in the management of oral benign lesion.⁶ Laser can control bleeding^{6,7} both during and after the operation and the surgeon has excellent visibility during the operation.⁶ In our study two lesions had minor intraoperative bleeding which was effectively controlled. There was no case of postoperative bleeding. Protective eyeglasses were used by the surgeon, operating staff and patient during the procedure. Wounds were left open to heal after laser treatment and no suturing was done. The CO₂ laser offers several advantages over conventional surgical methods and combines many of the attributes of the other techniques, both as a bloodless scalpel⁸ and as a method of destroying tissue. These advantages are well recognized and include immediate tissue destruction, bloodless dissection, clear view during surgery, shorter operative time, minimal instrumentation and little damage to adjacent tissues.⁹⁻¹² In our study the duration of laser was 2 to 8 minutes. Laser has decontaminating and bactericidal properties on the tissue¹³, therefore there is reduced need for antibiotics. There are less chances of recurrence following excision with Carbon dioxide laser as compared to scalpel excision.¹⁴. Overall 100% cure rate was achieved with minimal intraoperative and postoperative complications.

CONCLUSION

Keeping in view the excellent results which were achieved in the present study in CO₂ laser treatment of oral benign lesions, many advantages of CO₂ laser over other surgical techniques and less rates of recurrence as compared to other surgical methods, CO₂ laser should be more routinely used in management of oral benign lesions.

Figure 1 Papilloma on tongue Figure 2 Papilloma

Figure3 Mucocele

Figure 4 After excision

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