

# Successful management of recurrent mucocele by diode laser and thermoplasticised splint as an adjunctive therapy

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Accepted 9 August 2016

## DESCRIPTION

Mucoceleles are the most common lesions of the minor salivary glands that occur mostly in the lower lip,<sup>1</sup> probably due to the higher incidence of mechanical trauma in this region.<sup>2</sup>

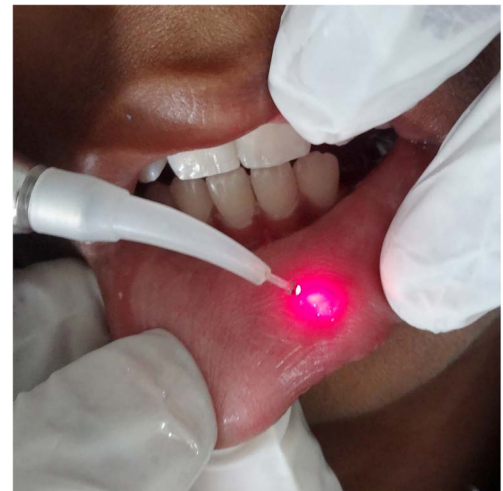
A 9-year-old boy visited the department with symptoms of swelling on the lower lip since 15 days. The habit of nail biting was confirmed by the parents leading to notched maxillary incisors. Irritation from these notched incisors caused the

swelling on the lower lip. On clinical examination the lesion appeared as a single, raised, circumscribed vesicle which was firm in consistency measuring 4 mm in diameter (figure 1) and there was no associated pus discharge or sinus. Considering the history and clinical findings a differential diagnosis of irritation fibroma or mucocele was noted.

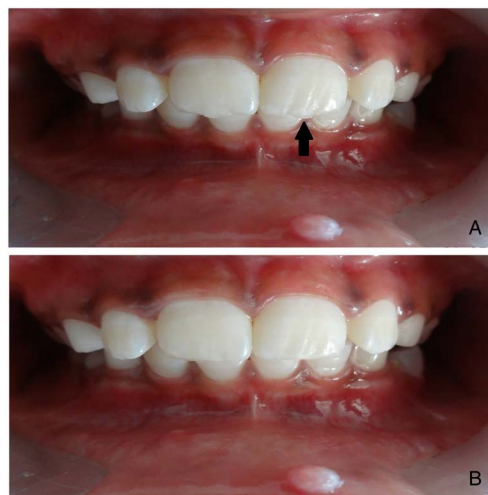
The notched incisors were restored with composite material to avoid further trauma (figure 2). Diode lasers have been used in paediatric dentistry



**Figure 1** Mucocele on the lower lip due to notched incisors.



**Figure 3** Removal of mucocele by diode laser tip.



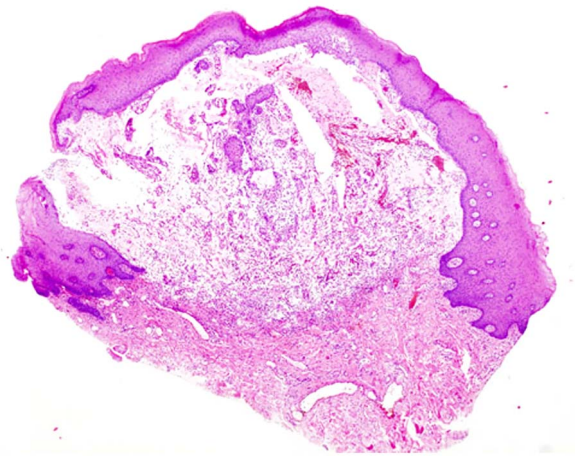
**Figure 2** (A) Notched maxillary incisors. (B) Restored with composite material.



**Figure 4** Coagulation was observed after the removal of the lesion.



**To cite:** Chinta M, Saisankar AJ, Birra C, et al. *BMJ Case Rep* Published online: [please include Day Month Year] doi:10.1136/bcr-2016-216354



**Figure 5** Histopathological examination of the lesion.



**Figure 6** Recurrence of the lesion after 4 weeks.

for soft tissue procedures rather than conventional procedures due to the advantages of good haemostasis and reduced post-operative complications. Hence we decided to treat the patient with a diode laser. Before treating the lesion with laser, Precaine B topical anaesthetic gel (20% benzocaine) was applied for 2 min prior to infiltration. Local infiltration was given around the lesion (Lignox 2% a lignocaine with epinephrine 1:80 000). Removal of the lesion was performed using a diode laser (DenLase-810) with a power of 2 watts. The pulse duration was 0.05 s (figure 3). Laser protective glasses were worn by the patient and the operator before starting the procedure. A circular incision was made around the lesion to obtain a proper biopsy sample. Coagulation of the lesion was achieved after the removal of the lesion (figure 4). Histological examination exhibited a fibrous capsule with central lumen and dense diffuse chronic inflammatory cell infiltration predominately with lymphocytes and plasma cells (figure 5). Hence it was diagnosed as mucocele.



**Figure 7** Thermoplasticised splint (erkodur 2 mm) placement.

Recurrence of the lesion was observed after 4 weeks in the same region with increased size of 6 mm in diameter (figure 6). The reason can be attributed to the constant irritation from the maxillary incisors which were in deep bite. Again the lesion was excised using diode laser and a thermoplasticised splint (erkodur 2 mm) was used for 6 months as an adjunct to intercept the nail biting habit and also to prevent the irritation of the lip from incisors. Daily rinse with chlorhexidine 0.2% was advised to maintain good postoperative oral hygiene. The patient has been under observation for 6 months and has not shown any sign of recurrence (figure 7).

#### Learning points

- ▶ Diode laser is a therapeutic alternative for treating soft tissues in children, allows good control of haemorrhage and no sutures are required.
- ▶ Thermoplasticised splint can be used as an adjunctive therapy to prevent constant irritation from a sharp tooth.

**Contributors** MC was involved in carrying out the case. AJ was involved in guiding the case. CB assisted the case and PKK was involved in preparation of manuscript.

**Competing interests** None declared.

**Patient consent** Obtained.

**Provenance and peer review** Not commissioned; externally peer reviewed.

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