

# Removal of fibrous epulis with Er,Cr:YSGG laser: case report

G. OLIVI, M. COSTACURTA, P. MATURO, R. DOCIMO

**ABSTRACT. Background** Epulis is a benign tumour located in the area of the alveolar bone, periodontal ligament and marginal gingiva. A clinical case of Epulis, treated using an Er,Cr:YSGG laser in our Paediatric Dentistry division of the PTV Hospital, University of Rome "Tor Vergata", is described. **Case report** A pink, sessile, broad-based lesion, elastic in consistency, was detected on the maxillary vestibular gum above the lateral right incisor. The lesion was removed with Er,Cr:YSGG laser (2780 nm) without anaesthetic infiltration, power ranged from 1,5 to 2,0 Watts at 20 Hz repetition rate under 20%-15% air-water spray. The histopathological examination confirmed the diagnosis of fibrous epulis. The immediate postoperative course was excellent, with no pain or need for anti-inflammatory or analgesic drugs. Wound healing was good after 1 week, and was completed after 1 month. The patient was followed up for 3-6 months, and checked again after 1 and 2 years to assess possible relapse. The Er,Cr:YSGG laser has several treatment advantages, fundamental in Paediatric Dentistry: it requires only topical anaesthesia, it has a high clinical safety, there is a short treatment time, no surgical sutures are required; no complications were encountered during or immediately following laser surgery, all resulting in excellent patient cooperation.

**KEYWORDS:** Er,Cr:YSGG laser, epulis, oral hyperplastic lesions.

## Introduction

Epulis is an aspecific clinical term of topographic meaning (επι over, ουλον gums) but without specific histological characteristics; in clinical terminology it is used to describe benign tumours, circumscribed and located in the area of the gums or near the alveolar margin [Montagna et al., 2000].

According to the histopathological classification [Anneroth and Sigurdson, 1983], epulis are divided into three large groups:

1. granulomatous hyperplasia: epulis in pregnancy, pyogenic granuloma, angiomatous epulis, telangiectatic epulis, capillary hemangioma, hemangioma cavernosum;
2. fibrous hyperplasia: fibrous epulis, fissured epulis, fibroepithelial lesions, primary odontogenic fibroma;
3. giant cell hyperplasia.

The aetiology of epulis is multifactorial: irritative

factors (chronic gingivitis, periodontal disease, defective dental fillings, poorly fitting dentures, poor oral hygiene, tobacco smoking), blood dyscrasias (anaemias, haemostatic alterations) and hormonal influences (during pregnancy, due to an increase in estrogen and progesterone levels) [Tamarit-Borràs et al., 2005]. The treatment aim is to remove the aetiologic factors and the surgical excision of the lesion [Tamarit-Borràs et al., 2005].

## Materials and methods

In the case reported an Er,Cr:YSGG laser, 2780 nm (Waterlase, Biolase-Irvine, CA-U.S.) was used. This medium infrared laser works in pulse mode, at a fixed frequency of 20 pulses per second (Table 1) [Hadley, 2000] (0-6W power 140 microsec. pulse duration).

The Er-Cr laser has a close affinity with hydroxyapatite and water, so it can be used both on hard (tooth, bone) and soft tissues (mucosa, gum, pulp tissue) [Iaria et al., 2005]. Therefore considering the high water content of soft tissues, the therapeutic indications of Er-Cr laser on such area are several (Table 2).

PTV Hospital - University of Rome "Tor Vergata", Rome, Italy  
e-mail: raffaella.docimo@ptvonline.it