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Case Study

Fibroepithelial polyp excision with laser and scalpel: A comparative evaluation

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Keywords

Pain,
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A B S T R A C T

Introduction: Fibro epithelial polyp is the most common epithelial tumor and originated from mesodermal elements. These polyps are small round knob like outgrowths that can form anywhere on mucosa but are most common on tongue, lips and cheek along the occlusal line. Case presentation: The present paper compares the excision of the lesion with diode laser and scalpel in terms of haemostasis, local anaesthetic required, duration of incision and post-operative pain. The patient treated with laser needed no infiltration or a nerve block except for the LA spray, the operating time was less, suturing was not needed and no post-operative medication was needed as the patient complained of no pain.
Conclusion: For intraoral soft tissue surgical techniques, the laser is a feasible substitute to the scalpel. In the contemporary dental practice using laser technology, procedures can be executed with less invasive methods.

Introduction

Oral cavity is persistently exposed to exterior and internal stimulating elements and therefore unveils a range of disease that vary from irritable, developmental and inflammatory to neoplastic (Effiom *et al*., 2011**)**.

Fibro epithelial polyps [FEP] are small round knob like outgrowths that can form anywhere on mucosa but are most common on tongue, lips and cheek along the occlusal line. They have a fibrous core covered by normal epithelium and are smooth-margined, and cylindrical, sessile. They are usually solitary, and reports of multiple, bilateral polyps are extremely rare.
These polyps clinically appear as firm, pink, painless, sessile or pedunculated, polypoid swelling with varying size which range in a few millimetres (Lee. 1968).

When observed microscopically the lesion shows the following features: the epithelium is either normal or hyper keratinized,

connective tissue shows dense, relatively avascular & acellular or has little scanty fibroblast, composed of bundles of collagen fibres.

No inflammatory cell infiltration unless there is secondary infection. Occasionally, multinucleated cells observed in the sub epithelium zone, & such lesions are referred as giant cell fibroma. The etiology of these polyps is not clear. It may be caused by chronic irritation, infection, hormonal imbalance, allergic factors, minor trauma or some developmental defects.

FEP are painless but are subjected to trauma so chance of infection prevails. They are usually pink in colour unless irritated or infected. If infected they may appear red in colour. They are similar in appearance to fibromas and papilloma's, but these conditions grow steadily from few millimetres to centimetres however fibro epithelial polyps rarely continue to grow remain as small finger like projections. They can only be diagnosed by examining their cell under the microscope after their surgical excision.

Differential diagnosis: fibroma, mucocele, giant cell fibroma, peripheral giant cell granuloma, papillomas. These lesions appear similar to fibro epithelial polyps therefore they can be diagnosed by histopathological examination. Remove the polyp surgically and remove the source of infection to avoid recurrence.

Case Report 1

A 50 year old male patient reported to the hospital with chief complaint of swelling in right cheek region. The swelling is present since past few years causing discomfort while chewing. The swelling started as small painless growth gradually progressed to present size. Patient revealed no relevant medical history. No adverse habits. Extra oral examination revealed no abnormality. Intra oral examination revealed solitary growth on middle area of right buccal mucosa located approximately 3 mm away from the angle of mouth in the line of occlusion (Fig 1). It was 3x5 cm in dimension, pale pink in color, pedunculated, firm and ovoid in shape. All inspectory findings were confirmed on palpation. It was a painless firm non compressible swelling.

Case Report 2

A 40 year old male patient reported to the hospital with chief complaint of swelling in the upper front region of jaw since 2 years which was unaesthetic and causing discomfort. The swelling started as small painless growth 2 years back and gradually increased to present size. Patient revealed no relevant medical history. He was former smoker. Extra oral examination revealed no abnormality. Intra oral examination revealed growth extending from tooth number 12-21on labial attached gingiva (Fig 6). It was 2x5 cm in dimension, pinkish red in color, smooth, sessile, ovoid in shape and firm in consistency. All inspectory findings were confirmed on palpation. It was a painless, firm and non-compressible swelling.

The present paper compares the excision of the lesion with diode laser and scalpel in terms of haemostasis, local anaesthetic (LA) required, duration of incision and post-operative pain.

A diode laser with a wavelength of 810 nm, fibers with a diameter of 400 μm, at 0.8-1.2 watts in continuous mode and straight handpieces through which the laser beam is applied to the oral soft tissue in contact type treatment mode in case 1. The patients, the surgeon, and the operative staff wore safety

glasses throughout the procedures

Excision is one of the most regularly conducted treatment procedures, the perfect removal of the lesion should be instant, bloodless, painless and linked with quick recovery from treatment. Scalpel is often used because of its perfection, minimal harm to cells and convenience of use, conversely better-quality of hemostasis will not be offered by scalpel, which is crucial in oral cavity as it is incredibly perfused region, this lead to use of laser in dentistry the most frequently used cutting tool in most parts of the world.

The significant benefits described in the literature for treating a lesion with diode laser are negligible postoperative inflammation, damage, enhanced healing, and reduced postoperative pain (Strauss 2000). Other advantages of the laser when compared with scalpel are highly decontaminated surgical bed, reduced mechanical trauma, no need for periodontal dressing and the appearance of fewer myofibroblasts resulting in comparatively lesser wound contraction (Bornstein *et al*., 2005; Fisher *et al.,* 1984).

The patient treated with laser needed no infiltration or a nerve block except for the LA spray, the operating time was 6 minutes, suturing was not needed and no post-operative medication was needed for the patient subjected to laser treatment as the patient complained of no pain, compared with the need for 2ml of LA for infiltration, operating time of 13 minutes including suturing and post-operative analgesics 600 mg ibuprofen as required in patient treated with scalpel. Our observation of only negligible postoperative discomfort and inflammation correlates with some of the authors (Silva., *et al 2004;* Pogrel., *et al* 1990).

The less operating time with diode laser is prompt and effortless for resecting overgrowths. Its advantages include a decline in the number of relapses in comparison with the scalpel.

For intraoral soft tissue surgical techniques, the laser is a feasible substitute to the scalpel. In the contemporary dental practice using laser technology, procedures can be executed with less invasive methods. On the other hand, the value of this information with regards wound healing, hemostasis, cost- efficiency, well-being and surgical aftermath's needs to be further analyzed in clinical situations.

Fig.1 Fibroepithelial polyp on the right buccal mucosa

Fig.2,3 Excision of the polyp with Laser

Fig.4 Post-operative view immediately after the excision

Fig.5 Post-operative view showing uneventful healing

Fig.6 Histopathological view of Case 1

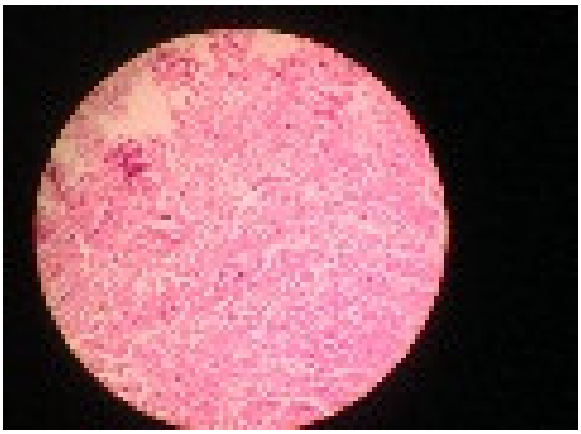
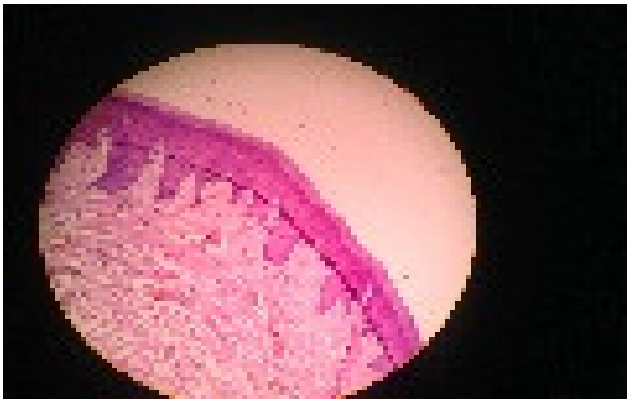


Fig.7 Fibroepithelial Polyp obliterating the labial frenum irt 11 &21

Fig.8 Post-operative view showing uneventful healing

Fig.9 Histopathological view of Case 2



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