Case Report

Histopathological Changes Induced By Radiofrequency Excision: A Case Report

Aarti B Bhattacharya¹, Sunil K Gupta², Shamima³, D B Singh⁴, Priyankar Sharma⁵

¹Professor, ³Assistant Professor, ⁵PG Student, Department of Pathology, Hind Institute of Medical Sciences, Safedabad, Barabanki, U.P., India
²Associate Professor, Department of Dermatology, Hind Institute of Medical Sciences, Safedabad, Barabanki, U.P.
⁴Associate Professor, Department of ENT, Hind Institute of Medical Sciences, Safedabad, Barabanki, U.P., India

Corresponding Author: Aarti B Bhattacharya

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ABSTRACT

Radiofrequency surgery (RF) though it is a method of choice for excisional surgeries, it causes a lot of morphological changes sometimes to the extent that it masks the original picture. It becomes more important in case of undiagnosed malignancy because it masks the picture by massive dense vascular congestion along with coagulative necrosis leading to difficulties in diagnosing and taking further steps. Keywords: radiofrequency cut, surgical incision, histomorphology.

INTRODUCTION

Radiofrequency surgery helps in simultaneous cutting and coagulation of tissues in an atraumatic manner. It uses radio waves that are released through a thin electrode, which cut, coagulate or reshape the desired tissue. [¹,²] It is a method of choice of surgery because on an average it incurs a shorter operation time, shorter hospitalization, [³] significantly less post operative pain hence fewer demands for analgesics by the patients and early return to work. [⁴,⁵] Radiofrequency cut, but brings in a lot of morphological changes like masking original picture and accompanied by coagulative necrosis and massive, dense vascular congestion, thereby making further steps difficult. [⁵,⁶]

CASE REPORT AND DISCUSSION

Herein we present a case of 45 years old male with a long standing erosive lichen planus of the lower lip with a complicating squamous cell carcinoma (SCC) as according to the first lower lip biopsy report.

The same lesion was excised by radiofrequency electrode to remove the lesion so as to study it in detail. But this time complicating SCC was masked. In this biopsy the original findings of erosive lichen planus were preserved. The radiofrequency cut lesion was studied macroscopically and microscopically. Grossly it appeared grayish with a haemorrhagic shrunken border. Microscopically it produced clearly demarcated coagulation necrosis upto a depth of 5.5mm bordered by an irregular zone of incomplete necrosis and fresh bleeding. Surrounding area showed different degrees of reduced nuclear
staining. Blood vessels in this area were hyperaemic and dilated with injury to the walls along with microthrombi. Nerve fibres in the RFC site showed vacuolization and reduced cellular staining. Similar findings were observed in the study conducted by Thomas Deneke et al. [4,5]

Table no: 1 Comparison of the histopathological findings before and after RFC

<table>
<thead>
<tr>
<th>Biopsy report before RFC</th>
<th>Biopsy report after RFC</th>
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<tbody>
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<td>Erosive lichen planus with complicating squamous cell carcinoma</td>
<td>Erosive lichen planus with numerous congested capillaries, arteries and large dilated vascular spaces lined by single layer of endothelium. No evidence of SCC. (Erosive lichen planus with verrucous haemangioma.)</td>
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A radiofrequency unit is supplied with a handle to which different electrodes can be attached to suit the requirement of the procedure. We used a needle electrode to incise the tissue, a loop electrode to reshape the wound edges and a ball electrode to coagulate the bleeding points. Excision with RF does not need any suturing thereby saving time. This reduces the operation time and also the possibility of sepsis and wound

Figure 1: Erosive lichen planus on the lower lip of 45 year old male

Figure 2: mic, H&E, 40x & 10x showing neoplastic change in long standing erosive lichen planus (Before RFC)

Figure 3: mic, H&E, 10x Erosive lichen planus features seen along with dense vascular congestion with masking of SCC features (After RFC)
– related complications. RF surgery helps in sealing the sensory nerve endings and the leaking lymphatics there by reducing post operative pain. [1,7]

We are here by comparing both the histopathological findings before RFC and after RFC (Table no: 1)

CONCLUSION

RFC is preferred over surgical resections for it being helpful to surgeons and patients both. It is advised that an ordinary scalpel cut be preferred to radiofrequency cut so that the minute cellular details are preserved and the lesion can be studied in detail and required steps may be taken.

REFERENCES