SP-17

Necessity Of Biopsy In Clinical Practise

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Abstract: In our general clinical practise, patients usually present with oral lesions. Hence it is most important that every dentistshould have a knowledge about the intraoral pathology and also dentist should know how to deal with pathology when it occurs and also with the investigative techniques that might assist in diagnosis making. Biopsy and histological examination of the lesion is an important diagnostic tool. Biopsies provides evaluative control of disease progression and are able to record healing or relapse. A biopsy is usually the only way to give a confirmatory diagnosis of oral lesions and diseases. All dental care professionals should know how to perform simple oral biopsies for diagnosing oral lesions. The capability of distinguishing benign and premalignant or malignant oral lesions is necessary for establishing a perfect diagnosis. This review article discussesthe applications, indications, contraindications of biopsy, criteria for selection of biopsy site and types of biopsies.

Keywords: Oral biopsy, Histopathological examination, Malignancy

1. INTRODUCTION

In dental practise, patients usually present with intraoral lesion. Therefore, it is important that every dental practitioner must be aware of how to deal with pathology when this occurs and they should also have a knowledge of investigative techniques which may assist in making a diagnosis. Usually in many instances, microscopic or histopathological examination of tissue is the gold standard for the diagnosing oral lesions and the tissue surrounding it.[1,2] The word biopsy is a Greek terms bios (life) and opsis (vision), hence the term means vision of life. A biopsy follows a procedure of obtaining a tissue from a living organism with the rationale of examining it under the microscope for establishing a diagnosis based on the sample.[3] An accurate histopathologic diagnosis depends mainly on the dentist doing biopsy at an appropriate site and issuing an adequate clinical information, and on the pathologist correctly interpreting the biopsy results.[4]

2. APPLICATIONS OF BIOPSY

For diagnostic, prognostic and treatment planning purposes biopsy is used. Furthermore, it can be used for checking the extent of the disease and also for predicting the end results.[5,6]

3. INDICATIONS OF BIOPSY

Biopsy is usually indicated for the following

3.1 Any longstanding growth present for more than 3 weeks;
3.2 Any progressive ulcerated lesion which has been present for 3 weeks or one which fails to respond to therapy in 3 weeks;
3.3 White or red patches in mucous membrane specifically those having a warty or corrugated appearance;
3.4 Any inflammatory lesion that has no response to local treatment after 10 to 14 days;
3.5 Characteristics that increase the malignant suspicion in an existing lesion.[5,6]

4. CONTRAINDICATIONS OF BIOPSY

Biopsy is contraindicated in patients with systemic disorder which might worsen or might develop secondary complications in seriously ill patients. Furthermore, a biopsy must be avoided in the suspected case of vascular lesions including haemangioma because of the massive and persistent bleeding risk.[5,7]

5. CRITERIA FOR SELECTION OF BIOPSY SITE

Careful selection of biopsy site is necessary for accurate results. A suspicious large oral lesion, often differs in severity of disease from one part of the lesion to another part. An appropriate biopsy includes tissue from the worst part of the lesion. The worst part of the lesion may be determined by its clinical appearance, multiple biopsies and use of adjunct visual tools.[4] If dentists are not sure about the most appropriate biopsy site, the patient must be referred to either oral surgeon or oral pathologists. This is because a biopsy from an inappropriate site provides both the patient and the dentist a false sense of security.[4]

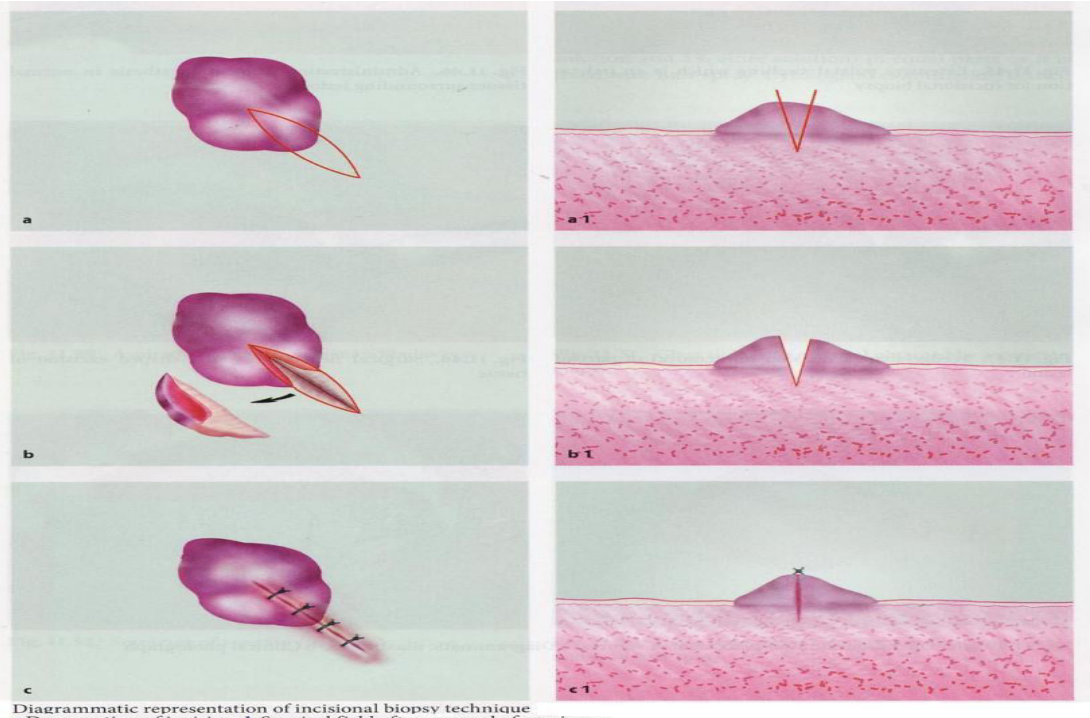
6. TYPES OF BIOPSIES

For most of the lesions, surgical biopsy is the primary choice to achieve an adequate tissue for histological examination. Other sampling technique for tissue includes cytology or fine needle biopsy, might have clinical applications. However, problem with these techniques must be understood so that information produced from these techniques can be meaningfully interpreted.[8]

SURGICAL BIOPSY

6.1 Incisional biopsy

Incisional biopsies include either the whole lesion (excisional) or part of a lesion, or part of the affected mucosa with the adjacent normal mucosa (to exhibit the interface between normal and abnormal mucosa) and removed for diagnostic purpose. Incisional biopsy is hence recognized as the gold standard.[5,9]



Diagrammatic representation of incisional biopsy technique
a Demarcation of incision. b Surgical field after removal of specimen.
c Operation site after suturing. a_1, b_1, c_1 Steps correspond to a, b, c, in vertical cross-sectional view

FIG 1: INCISIONAL BIOPSY

6.2 Excisional biopsy

The excisional biopsy is analogous to incisional biopsy, with an exception of entire lesion or tumour is included.[5]

6.3 Fine needle aspiration biopsy

FNA biopsy is performed with a fine needle attached to a syringe. Aspiration biopsy is often known as Fine Needle Aspiration (FNA). FNA biopsy is a percutaneous type of biopsy. FNA biopsy is typically accomplished with a fine 22or 25 gauge needle.[5]

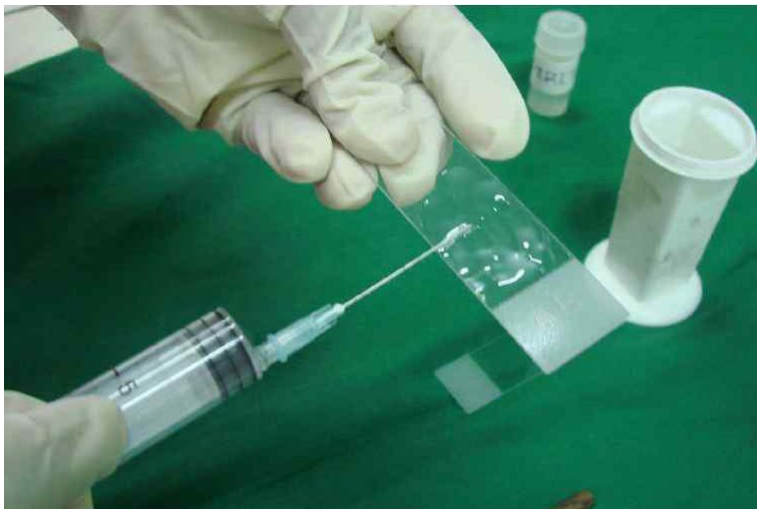


FIG 2: FINE NEEDLE ASPIRATION BIOPSY

6.4 Punch biopsy

Usually dermatologist uses Punch biopsy to sample skin rashes, moles and other small masses. By following the same procedure, punch biopsy can also be used for oral biopsy. For diagnostic purposes, it is used in an incisional fashion; however, larger punches can be used for excision of small lesions.[4,5]

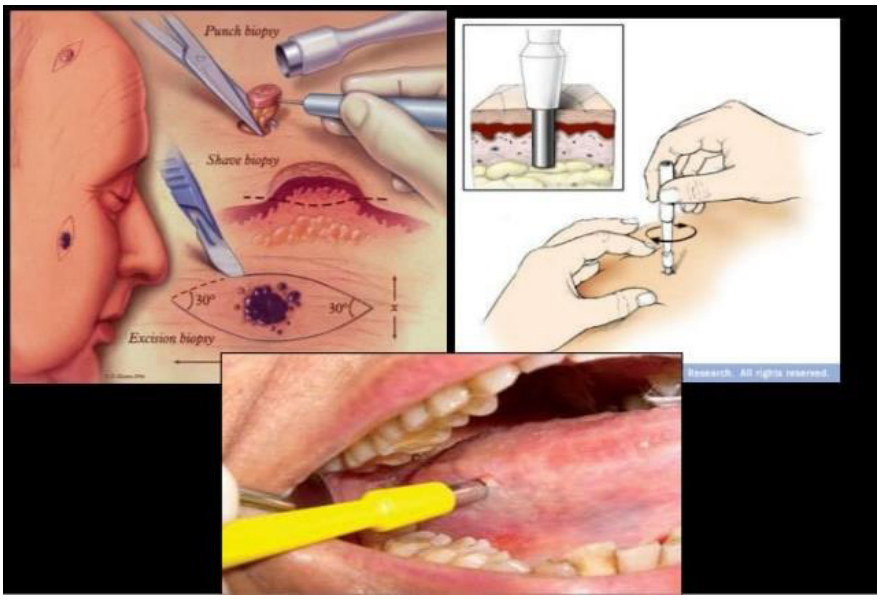


FIG 3: PUNCH BIOPSY

6.5 Exfoliative cytology/brush biopsies

This is a non-invasive method that, in certain situations, might be useful in the detection of mucosal lesion, especially in detecting superficial cellular features of lesions for atypical features which might indicate malignancy. This type of investigation can make the patient to decline a surgical biopsy.[10,11]

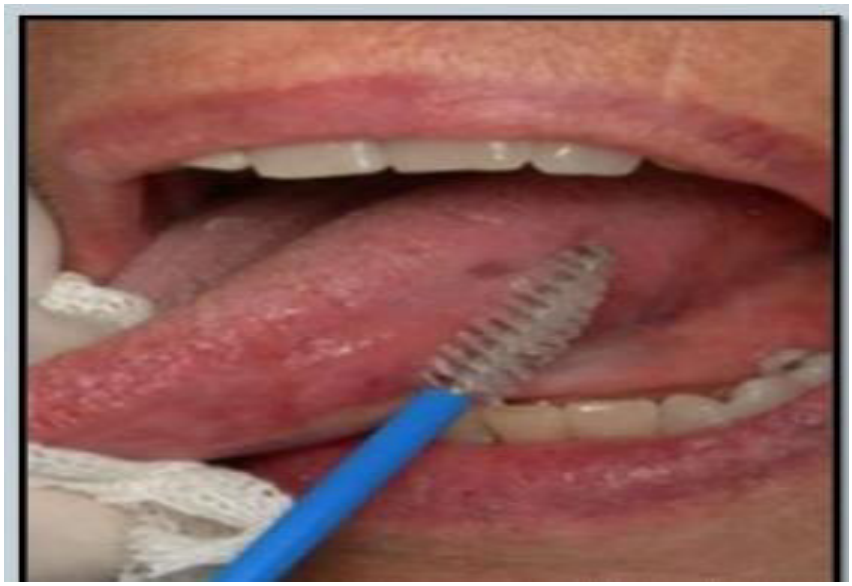


FIG 4: BRUSH BIOPSY

7. CONCLUSION

Many authors suggest that general dental practitioners should have adequate training to undertake simple biopsy procedures of clinically benign lesions.[12]Hence dentists should be conscious about the occurrence of lesion in their patients and even if they are not undertaking investigative techniques by themselves, they should have a knowledge about the principles of investigative techniques in relation to oral pathology and have strategies in place so that diagnoses can be made quickly .[8] Diagnosis and risk assessment of oral premalignant or malignant lesions requires both clinician and pathologists effort.[5]

CONFLICT OF INTEREST

Conflict of interest declared none.

8. REFERENCE

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