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| Dr.Sukaina | Doctor: |
| Farah al-hares | Done by: |



Oral Surgery II

**University of Jordan**

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Hand Out

Slide

Sheet

Designed by: HindAlabbadi

**Principles of biopsy**

**Biopsy**: is the removal of a tissue from a living individual for diagnostic purposes should be carried out whenever a definitive diagnosis cannot be obtained using less invasive modalities.

After examining the patient we can recognize suspicious marks that indicate making a biopsy.

It’s a priority to fully examine the patient because you might be the first one to identify any lesions that may raise the alarm to do a biopsy. We shouldn’t always concentrate only on the patient chief complaint or the operative work without paying attention to other signs. If you see a patient with high risk factors with single or multiple, white or red lesion in the oral cavity you should stop and think of taking a biopsy.

 Biopsy is the most definitive diagnostic method in the investigations that we do.

**Biopsy has 4 major types :**

1- Cytology (smear,brush)

2- Aspiration biopsy

3- Incisional biopsy

4- Excisional biopsy

**Oral cytology**

Cytology is mainly used in gynecology and still valid in this field by making pap smear or cytology of the cervix mostly applied in the uterine cervix malignancy.

The same is applied in the oral cavity we take a scrap of cells from the oral cavity specially the buccal mucosa or the tongue

Some still use cytology in the oral cavity in the suspected tumor cells for screening purposes .

It used as an adjunct method and it doesn’t substitute taking a biopsy because it’s unreliable and has many false results.

It’s indicated where there is a large area of mucosal changes and must be monitored for dyplastic changes whether in white or red lesions specially post radiation lesions or herpes

**Technique:** the lesions is scrapped repeatedly firmly with moistened tongue depressor ,if it’s not moist it will hurt the mucosa then the cells is smeared on a glass slide then it’s fixed and stained to be seen under the microscope

**Aspiration**

Aspiration biopsy is very important it’s the use of the needle and syringe to penetrate the lesion to explore its content.

If you are unable to aspirate fluid or air this indicate that the mass is solid (probably a tumor)

Radiolucent lesions in the jaw with straw-colored fluid indicate a cystic lesion.

If the aspirated fluid has pus it indicates infectious process.

If you find both straw-colored fluids with pus then we have an infected cyst

If blood is aspirated we have to stop and raise the alarm it may indicate different lesions like aneurysmal bone cyst , central giant cell lesion or vascular malformation which is mostly dangerous, if we go for incisional or excisional biopsy it might cause a perfuse bleeding specially if it has a main feeder like external carotid.

Never be to hurry to excise a lesion without aspiration specially vascular lesions.

These lesions have special techniques in radiology which is angiography ,you can visualize the vessels by injecting a radio-opaque [contrast agent](https://en.wikipedia.org/wiki/Radiocontrast) into the blood vessel and imaging using [X-ray](https://en.wikipedia.org/wiki/X-ray) to identify the feederof the lesion and then decide if the lesion’s feeder needs to be blocked by interventional radiologist through sclerosing the vessel using foams or other materials.

Aspiration should be carried out on all lesions even intraosseus lesion we can aspirate it by making a flap and drill a hole in the bone to be able to introduce the needle into the lesion .

Technique: use 18 gauge needle on 5-10 ml syringe

You may give anesthesia before aspiration or sometimes if the lesion is superficial it doesn’t need anesthesia , it depends on the case if you believe it requires anesthesia or not.

Introduce the needle in core of the mass and then aspirate then the aspirated fluid should be sent to the lab for diagnosis .

**Fine needle aspiration**

Using 20\21 needle which is different from the needle we use in the oral cavity it’s more complex, designed to go deeper in tissues and it’s guided by ultrasound usually done by interventional radiologist

Indications

* Fluid filled cyst not necessarily in the oral cavity may be in the maxillofacial area or in the neck
* Soft tissue lesions
1. Lymph nodes
2. Thyroid gland
3. Salivary gland

Mainly in the oral cavity we do aspiration and we don’t use fine needle aspiration

Cytology could by a smear or brush - the bursh looks like a toothbrush but it’s more invasive- we do brushing for the area of suspicion then we do spreading for the brush on a glass slide and visualize it under the microscope.

\*The brush is more invasive than smear biopsy .

**Incisional biopsy :**

An incisional biopsy is a biopsy that samples only a particular or representative part of the lesion. if the lesion is large or has different characteristics at different locations , more than one area of the lesion may need to be sampled.

\*Indications :

If the area under investigation appears difficult to excise because of its extensive size (larger than 1cm in diameter) or hazardous location , or whenever there is a great suspicious of malignancy , incisional biopsy is indicated.

\*Principles :

Representative areas of the lesion should be biopsied in wedge fashion . the material should be taken from the edge of the lesion to include some normal tissue. It is much better to take a deep narrow biopsy , than a broad shallow one.

**Excisional biopsy:**

An excisional biopsy implies removal of the entire lesion at the time the surgical diagnostic procedure is performed.(diagnostic+therapeutic)

\*Indications :

Excisional biopsy should be employed with a smaller lesion (less than 1 cm in diameter) that on clinical examination appear to be benign.

Any lesion that can be removed completely without mutilating the patient is best treated by exc. Biopsy .pigmented and small vascular lesion should also be removed in their entirety.

\*principles:

The entire lesion , along with 2 to 3 mm of normal appearing surrounding tissue is excisied. (safety margin).

\*\*\* biopsy and all tissues removed are placed in 10% formalin solution . labeled and send to the pathologist with all the necessary information. Once the biopsy has been performed , the dentist should make a follow-up appointment with the patient within the first week after surgery , to follow the site of operation and to inform the patient about the result of biopsy.

***Anesthesia :***

***We do field block anesthesia (ring anesthesia around the lesion)***

Block local anesthesic techniques are employed when possible :

The anesthesia solution should not be injected within the tissue to be removed , because it can cause artifactual distortion of the specimen.

When blocks are not possible , infiltration of local anesthetic may be used locally , but the solution should be injected at least 1cm away from the lesion (field block).

**Tissue Stabilization :**

Accurate surgical incisions are easiest to perform on tissues that are properly stabilized.

The lips can be immobilized by the use of an assistant’s fingers pinching the lip on both sides of the biopsy area , this also aids in hemostasis by compressing the labial arteries .

Heavy retraction sutures or towel clips can be used to aid immobilization of the tongue or soft palate.

**Hemostasis :**

*We should have good hemostasis to prevent the formation of hematoma and infections.*

The use of a suction device for aspiration of surgical hemorrhage during biopsy should be avoided , because small surgical specimens can be easily aspirated into these devise and lost .

Gauze wrapped over the tip of a low-volume suction device or a simple gauze compresses are adequate in most cases , unless severe hemorrhage is encountered.

*the sutures should be everted.^\_^*

**biopsy data sheet:**

all specimens must be carefully labeled and identified with demographic data of both patient (name,age,gender…) and the dentist’s office on the sheet.all patient history and a clinical description of the lesion must be conveyed to pathologist on this form.

Good LucK Seniors <33 ^^

Done by :Farah al-hares