Oral surgery sheet # 12

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Malignant Tumors of the Oral Cavity

**Refer to the slides**

According to WHO (world health organization) there’s a specific ICD (International classification for disease) used for each known disease, this facilitate researches and obtaining statistics for any disease,

**Oral cancers’ ICD number is 9,** and there’re many subtypes, it includes: lips, tongue, gum, floor of the mouth, buccal mucosa and other non-specific sites in the oral cavity, so oral cancer means any malignant tumor in the oral cavity or the lips, **the most common sites are the tongue in some countries or the floor of the mouth in other countries**, you have to do studies to figure out the most common site for each country, in sunny places for instance, lip cancer has higher rates.

Most of malignant tumors in the oral cavity (90% of them) are **Squamous Cell Carcinoma**, **2nd most type** is **Verrucous Carcinoma** which is a squamous cell carcinoma (mainly), but differs in its histopathology and the prognosis (better in the verrucous carcinoma, especially if detected early and then completely excised).

Although minor salivary glands are in the oral cavity, their cancers don’t enter the classification oral cancers, they have their own classification, which will be discussed in the next lecture.

Oral cancer isn’t that common worldwide, but it’s common in certain areas in Asia like India and Pakistan where people chew tobacco with some other types of plants and seeds (Betel) together, oral cancer is the most common these in these countries.

In UK its incidence around 4.5:100000, in Jordan there’s no proper documentation for oral cancer cases, but it still not that common (not one of the top 10).

**Oral cancer prognosis is poor, but why?**

This is because most of the patients diagnosed in the late stages (3 or 4) due to the asymptomatic nature of the oral cancer lesions, which makes the patient ignoring them, then the 5 years survival rate much less for them, so the most important point in the prognosis for oral cancer is the early detection.

Here comes the great responsibility of the general dental practitioners, because he’s usually the first person who comes in touch with oral cancer patients, and by doing proper screening, he might discover these lesions early enough to save lives, and because oral cancer has low incidence, this way is much (cost-effective) than doing campaigns to diagnose these patients, like breast cancer campaign (أوعدينا تفحصي), also increasing the awareness towards oral cancers in general is one of our goals as a general practitioner.

Oral cancer incidence in Europe and USA was much higher in 1960s and 1970s, and then a drop happened in the 80s and 90s, because the awareness increased toward smoking as a major risk factor for many types of cancers especially oral cancer, which was a popular social habit between males mainly, this explained the fact that male: female ratio between oral cancer patients almost equal nowadays, while in 60s and 70s, most of the patients were men.

**What are the early signs of oral cancer?**

Ulcers (in most of the cases), white or red lesions and warty lumps

Lymph nodes enlargement and difficulty in swallowing mostly appear as a late signs.

**When we should take a biopsy?**

If a patient came to you with an ulcer and you suspect other reason than malignancy to be the cause (trauma for example), then you have to wait for 3 weeks, if the ulcer persists, you have to take a biopsy.

But if a patient came to you with an ulcer and you didn’t suspect any reason except malignancy, then you have to take the biopsy immediately.

Ulcers caused by trauma are similar to those caused by malignancy.

**What are the characteristics of an ulcer caused by malignancy?**

* Ill-defined
* Painless
* Indurated
* Elevated borders
* Fixed to the underlying tissue

These characteristics get the clinician to suspect a malignant cause

If there is a cause of trauma, this cause has to be excluded to see if there is ulcer healing or not and based on that it can be diagnosed as a traumatic lesion or not.

If it was a coloured lesion and ulceration or colour changes started then this may also make the clinician to suspect a malignant tumour.

So oral cancer could be of white lesions, red lesions, and lip lesions and so on.

A typical site of the cancer in the oral cavity is the lateral borer of the tongue.

As we can see in this picture, the edges are elevated and are usually fixed to the underlying tissue. And ulcers in some cases especially when they get large become fungated (fungal infection) due to necrosis where there is no proper blood supply.



**What are the risk factors of oral cancer?**

* Smoking
* Alcohol
* Smoking and alcohol (synergistic effect)

Because alcohol causes **thinning and erosion** to the mucosa, and this causes **absorption of chemicals such as the “TAR”** found in the tobacco smoke causing greater risk.

* Tobacco chewing
* An already existing premalignant lesion; erythroplakia, leuoplakia

Based on a study in Saudi Arabia about oral cancer in Arab countries, oral cancer is within the range 2.3%, while Yemen being the most country with oral cancer patients due to Qat (القات) chewing.

Slide 16:

This study was made in 2009 for cancer in general in Jordan and mentioned that:

* Mouth cancer 34 cases 20 males 14 females 0.7% of all cancer
* Tongue cancer 11 cases 7 males 4 females 0.2 % of all cancer
* Lip cancer 17 cases 10 males 7 females 0.4% of all cancer

So oral cancer comprise a total of 1.5% of the total cancer cases in Jordan

Slides 17, 18:

Oral cancer is not even in the top ten of the most common cancers among Jordanians neither with male or females

The most common cancer in males is colorectal cancer then Lung cancer while in females is breast cancer

Slide 20:

Back to the risk factors of oral cancer we have: Viruses

Like herpes simplex virus (HSV) and human papilloma viruses (HPV) both of them are associated with high risk of oral cancer

Slide 23:

* sun light has a direct effect on lip cancer
* Chronic irritation is still a debatable subject whether or not it’s associated with cancer
* Diet is important since it has antioxidants and they fight the cancer matter in our bodies. From this point you’ll see patients who are socially deprived without proper diet has higher diseases percentages and cancer
* Alcohol containing mouthwash: so you must warn our patients that alcohol containing mouthwash is a medication and should be taken in specific doses
* HPV and HSV as mentioned before but HPV has a higher risk
* Premalignant conditions like leukoplakia and erythroplakia
* Immune system suppression: we have something called immunosuppressive genes that work against the genes causing cancer, so patient with immune system suppression would have higher percentage of diseases and malignancies

Slide 24:

* Chronic iron deficiency is related to Plummer-vinson syndrome that causes malignancy in the esophagus and pharynx
* Oro-dental factors:

Poor oral hygiene is an indicator to the general health condition of the person.

So poor oral hygiene is related to poor medical status, so we need to screen patients with poor oral hygiene well not because it’s related directly to cancer but because of the possibility of having other diseases.

* Previous Treatment with radiotherapy to head and neck: because radiotherapy can cause malignant changes and transformation of cells at that area

Slide 25:

Prognosis of oral cancer is very poor and the best prognostic indicator is lymph nodes.

Oral cancer can metastasize to multiple areas in the body like the lungs but the most common site is the lymph nodes.

In spite of all the medical advances, the prognostic status of advanced oral cancer didn’t improve, only the quality of life.

It can only improve when it’s detected at early stage

Slide 26:

Factors influence the prognosis:

* Early vs late
* Extent of the disease
* Site : the more anterior the better prognosis as it’s detected earlier
* Pathology: depends on the differentiation of the cells, the more differentiated is better than poorly differentiated
* Age: as a number it’s not important as general health, so if the patient has other systemic diseases would have a poorer prognosis because he won’t withstand surgery and radiotherapy
* Treatment

Slide 27:

TNM is a staging system of tumors to help us to know the prognosis of the malignancy

Slide 28:

T0: means when the patient came to the clinic the manifestation was tumor in the lymph nodes in the head and neck region, after taking a biopsy of the tumor it turns to be a malignant metastasis, which is probably came from the oral cavity, pharynx or larynx

Slide 35:

Histological grading which is considered a testament on differentiation of the cells

The histopathologist reveals whether it’s malignant or not and the level of differentiation of the cells, the more differentiated the better prognosis

Slide 36:

You can’t prevent cancer in the meaning of prevention, because risk factors are not the causes of cancer, you can get cancer whether or not you have the risk factors.

Regardless, prevention aims at the reduction of risk factors as it delays the eruption of cancer at a later age.