Oral cancer

(diagnosis and treatment planning)

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- Squamous cell carcinoma makes up over 90% of cancers affecting the oral cavity.

- Worldwide oral cancer is the sixth most common malignancy.

- Major risk factors :The use of tobacco and alcohol, Human papilloma virus (HPV)
- Other risk factors include

- Genetics, toxic exposures, diet, and environmental factors.

- Nutritional deficiencies
- Poor oral hygiene and traumatic injury of dental origin .
- There is an increased risk of oral an oropharyngeal carcinomas in those with HIV/AIDS and who have undergone organ transplant.

Precancerous Situations of Oral Cavity

- precancerous conditions and precancerous lesions.

- Precancerous conditions make every part of the oral cavity susceptible to cancer conversion as is seen in oral submucous fibrosis (OSMF). The phenomenon simulates field cancerization.

- Precancerous lesion is pathology of the oral mucosa which has a tendency to transform into the squamous cell carcinoma.
- eg:leukoplakia, erythroplakia, carcinoma in situ, and smoker’s palate.





Subsites of the Oral Cavity

- (AJCC) divides the oral cavity into seven distinct subsites :
- mucosal lip
- buccal mucosa
- floor of the mouth
- oral tongue
- mandibular gingiva and alveolar ridge maxillary gingiva, alveolar ridge
- hard palate
- retromolar trigone.

Diagnosis of Oral Squamous Cell Carcinoma (OSCC)

Clinical Features:

- Indurated ulcer
- exophytic growth
- indurated non-ulcerative patch (endophytic)
- or a combination of the above appearances.

Important parameters to be recorded:

- Site
- Size
- Extension to involve adjacent structures like the skin, muscles, bone …etc

- The neck must always be palpated in order to assess the potential for lymph node involvement for staging and treatment planning.

Imaging in OSCC Diagnosis

- C.T Scan
- MRI
- PET sacn

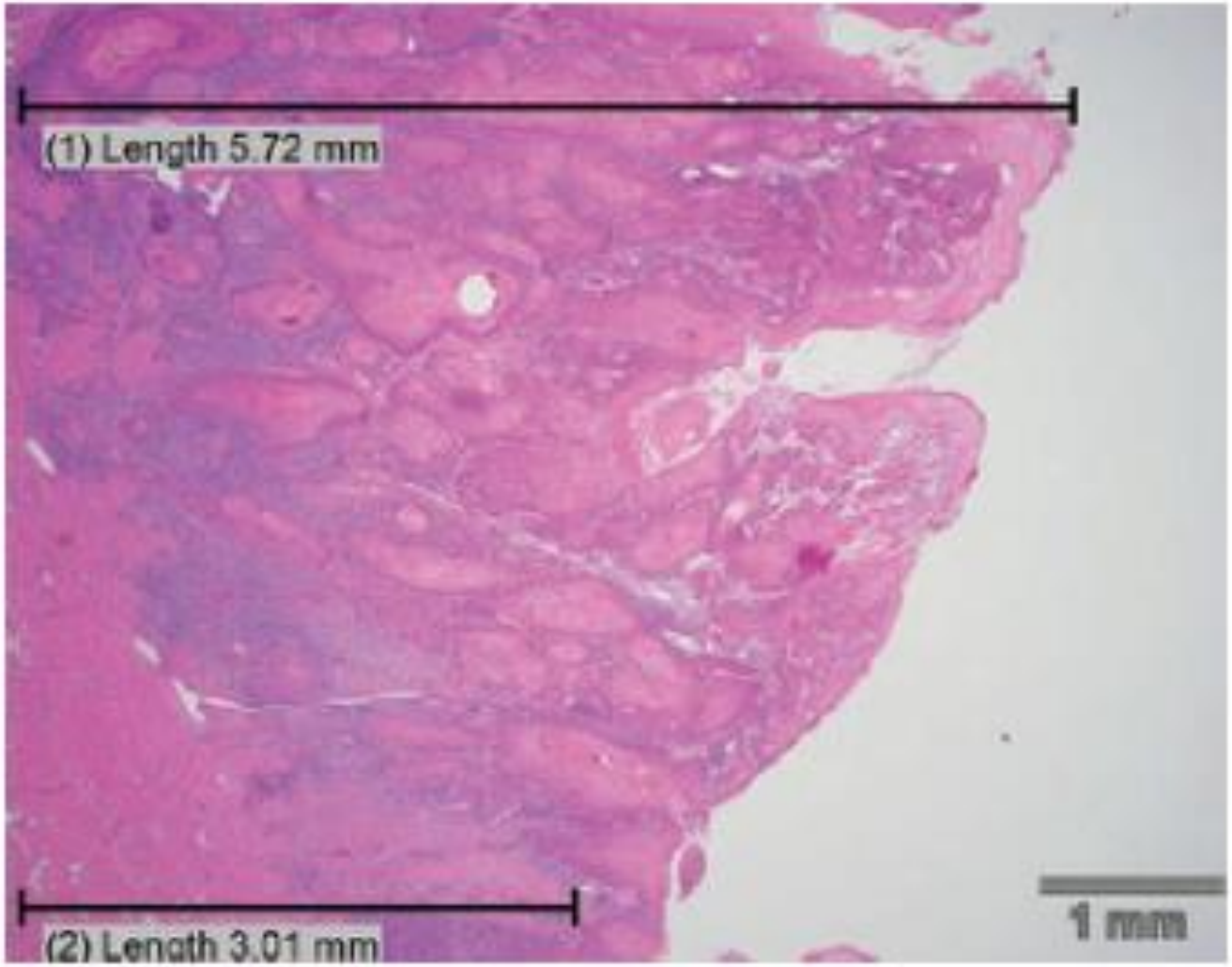
Biopsy

- Clinically suspicious lesions of the oral cavity that do not resolve spontaneously after 2 weeks require a tissue diagnosis.

- Histological Features and Grading:
- Well-differentiated squamous cell carcinoma,Grade 1
- Moderately differentiated squamous cell carcinoma Grade 2
- Or poorly differentiated squamous cell carcinoma, Grade 3.

prognostic indicators

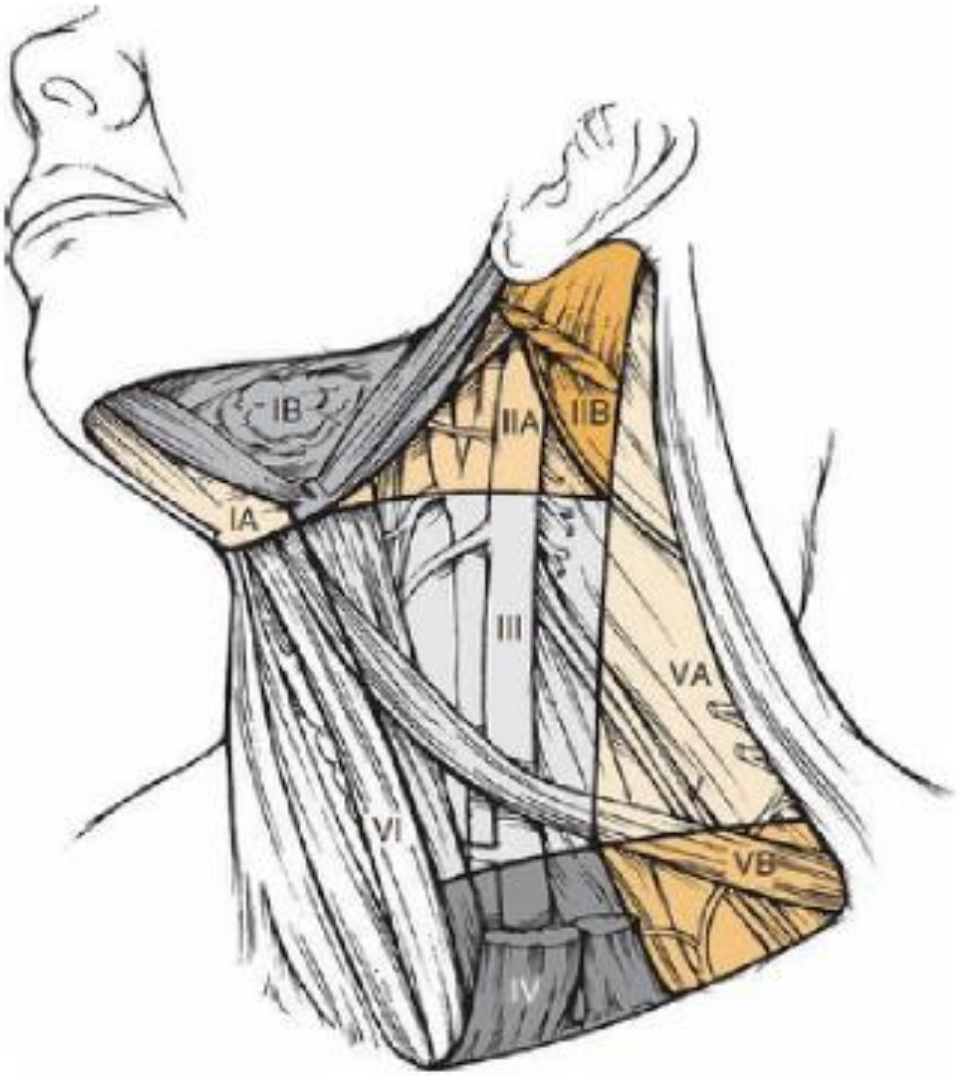
- Depth of invasion (DOI)
- Pattern of invasion (POI)
- Perineural invasion (PNI)
- Lymphovascular invasion (LVI)
- And extranodal extension (ENE).


(1) Length 5.72 mm
(2) Length 3.01 mm
1 mm

Neck Assessment in OSCC

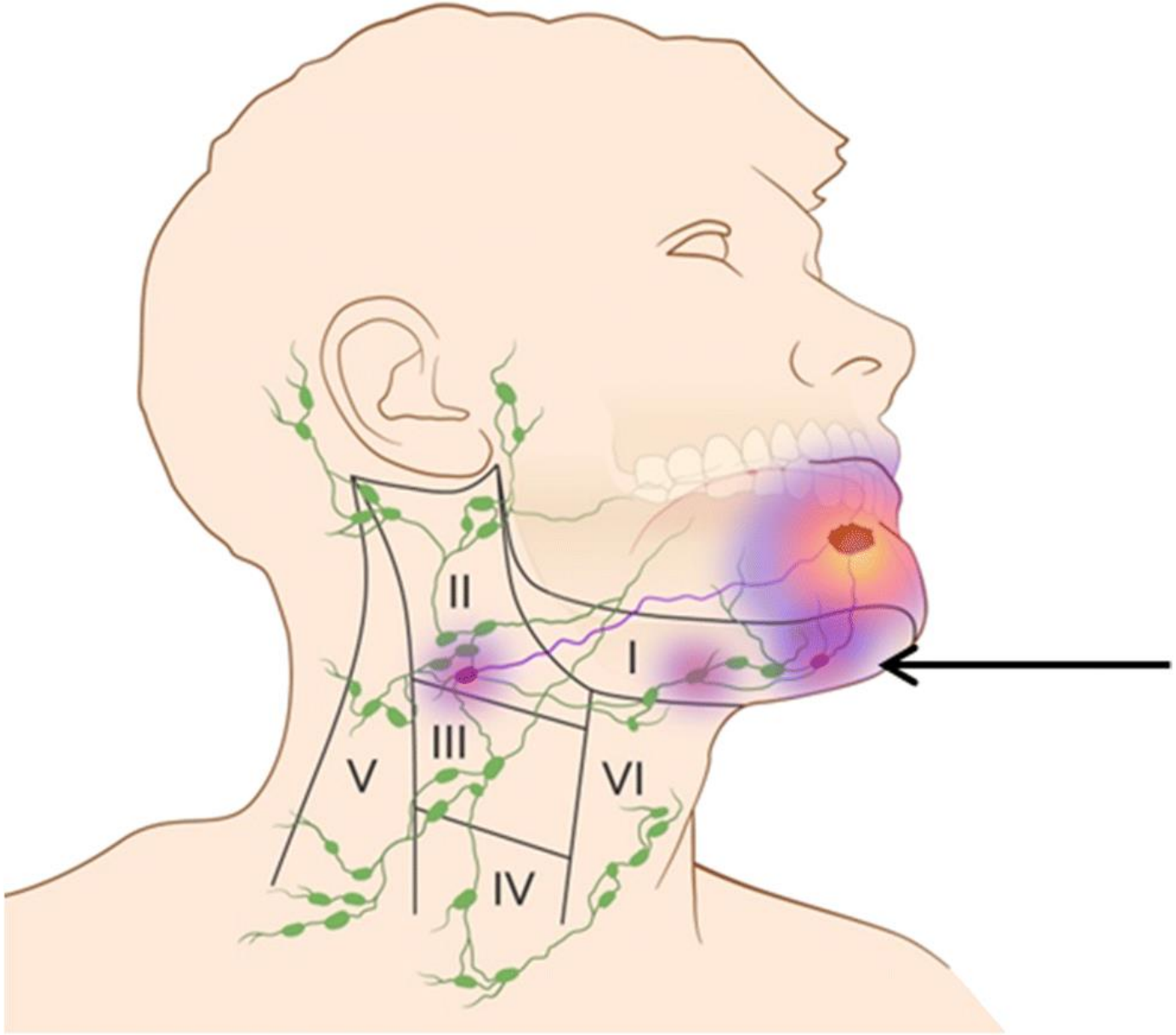
The cervical lymphatic basins draining the head and neck contain approximately 300 lymph nodes, which make up 40% of the body's total of ~800, and are invested in a network of fibrofatty tissue. The nodes are interconnected by lymphovascular channels.

Levels of cervical lymphnodes



Sentinel Node Biopsy

A sentinel lymph node biopsy (SLNB) is a procedure in which the sentinel lymph node is identified, removed, and examined to determine whether cancer cells are present.



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AJCC Eighth Edition Clinical Staging System

- T—Primary tumor.
- Tx—Primary tumor cannot be assessed.
- Tis—Carcinoma in situ.
- T1—Tumor ≤ 2 cm in greatest dimension, ≤ 5 mm depth of invasion (DOI not tumor thickness).
- T2—Tumor ≤ 2 cm with DOI > 5 mm or tumor > 2 cm and ≤ 4 cm with DOI ≤ 10 mm.
- T3—Tumor > 2 cm and ≤ 4 cm with DOI > 10 mm or tumor > 4 cm with DOI ≤ 10 mm.
- T4—Moderately advanced or very advanced local disease.
- T4a—Moderately advanced local disease.

Regional lymph nodes (N) ENE—extranodal extension.

- Nx—Regional lymph nodes cannot be assessed.
- N0—No regional lymph node metastasis.
- N1—Metastasis in a single ipsilateral lymph node, ≤ 3 cm in greatest dimension and ENE (−).
- N2—Metastasis in a single ipsilateral lymph node, > 3 cm but ≤6 cm in greatest dimension and ENE (−); or mets in multiple ipsilateral lymph nodes, ≤ 6 cm in greatest dimension and ENE (−); or mets in bilateral or contralateral lymph nodes, ≤ 6 cm in greatest dimension and ENE (−).

- N2a—Metastasis in single ipsilateral lymph node >3 cm but ≤6 cm in greatest dimension and
- ENE (−).
- N2b—Metastasis in multiple ipsilateral lymph nodes ≤6 cm in greatest dimension and ENE (−).
- N2c—Metastasis in bilateral or contralateral lymph nodes ≤6 cm in greatest dimension and ENE(−) .

- N3—Metastasis in a lymph node >6 cm in greatest dimension and ENE (−) or metastasis in any lymph node(s) with
- clinically overt ENE (+).
- N3a—Metastasis in a lymph node >6 cm in greatest dimension and ENE (−). N3b
- —Metastasis in any lymph node(s) with clinically overt ENE (+).

- Distant metastasis (M). M0
- —No distant metastasis (no pathologic M0; use clinical M to complete stage group).
- M1—Distant metastasis.