Surgical management of oral cancer

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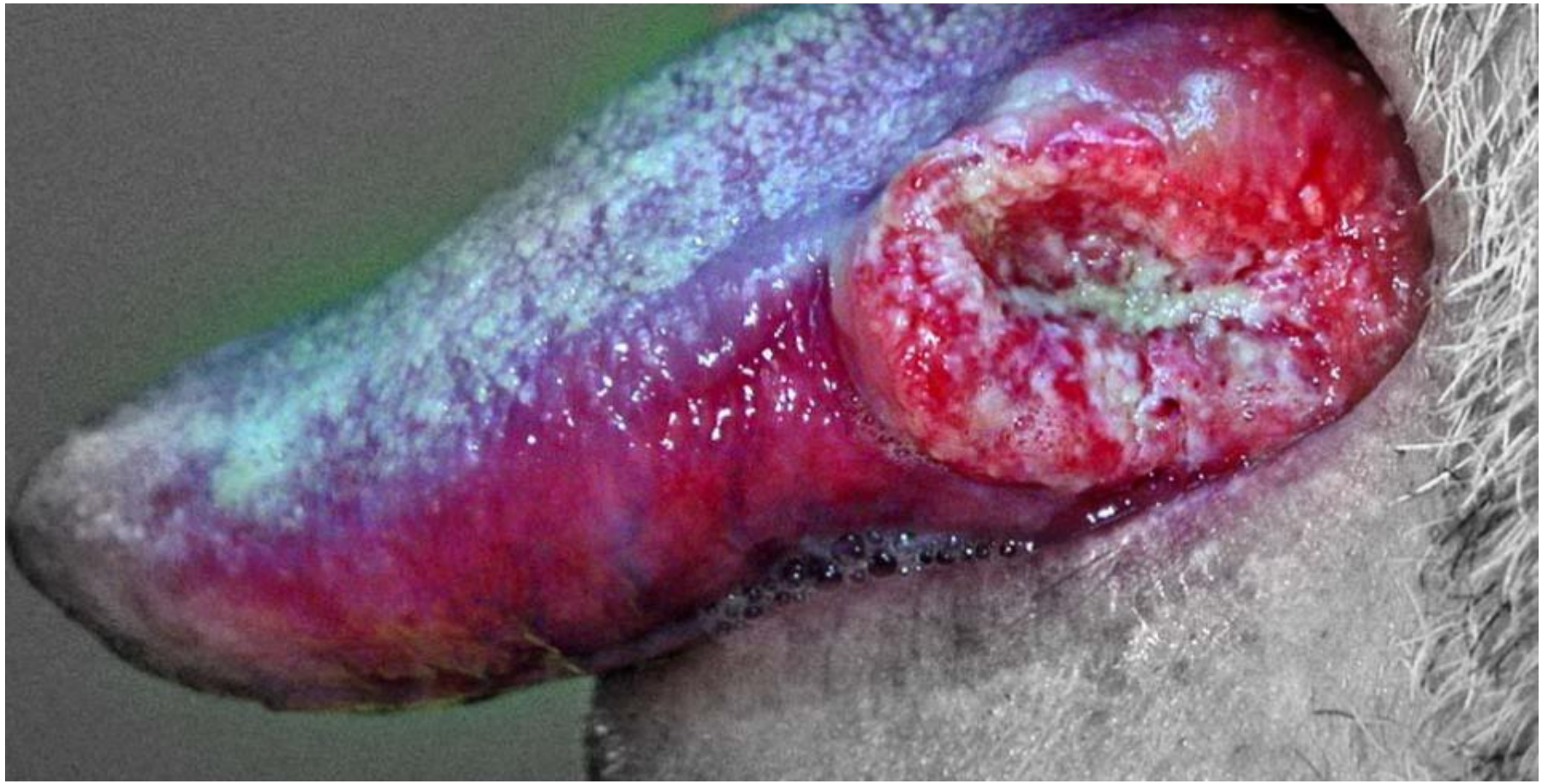
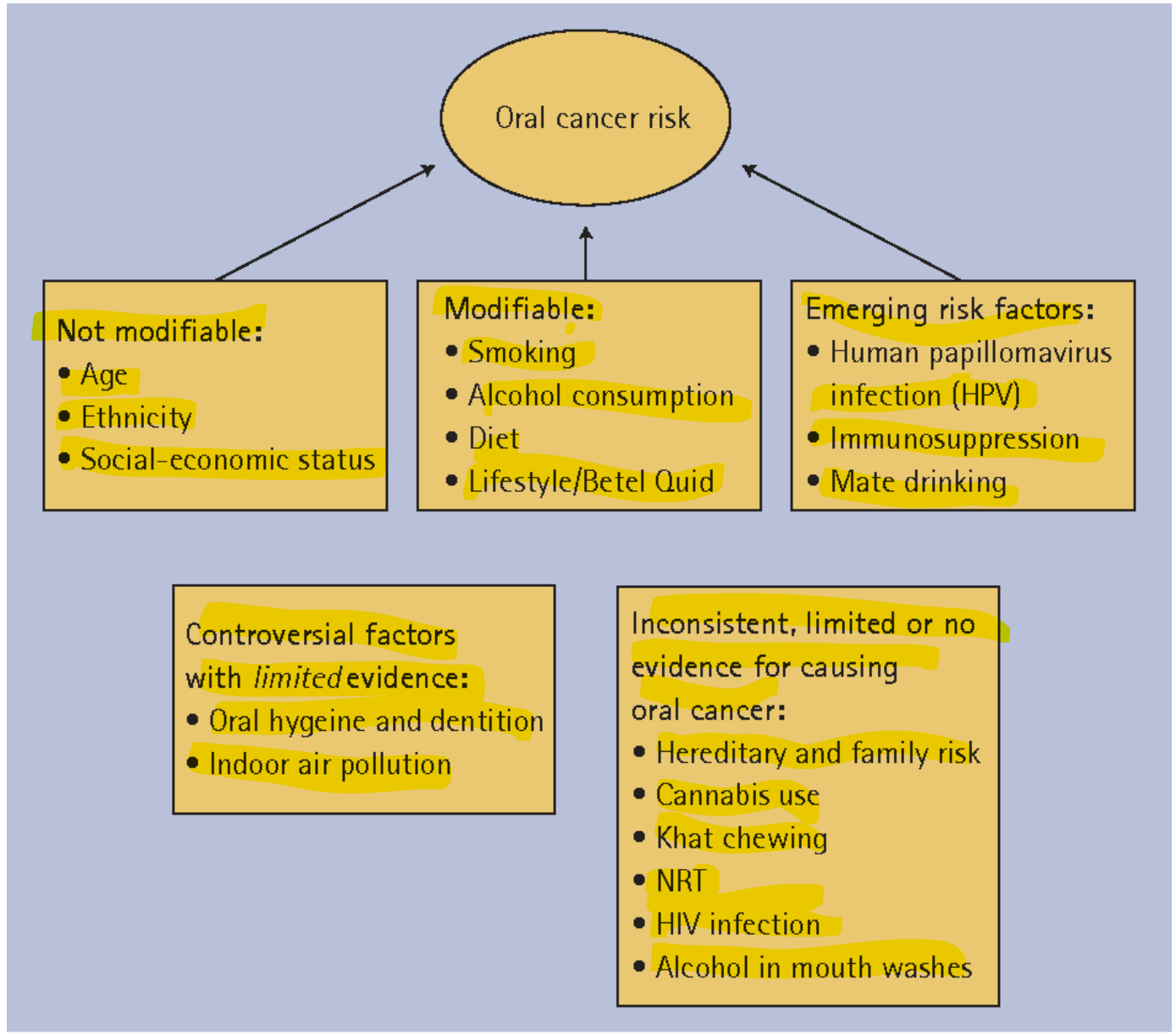
Oral Cancer

- **"Cancer is an abnormal growth of cells caused by multiple changes in gene expression leading to dysregulated balance of cell proliferation and cell death and ultimately evolving into a population of cells that can invade tissues and metastasize to distant sites, causing significant morbidity and, if untreated, death of the host"**

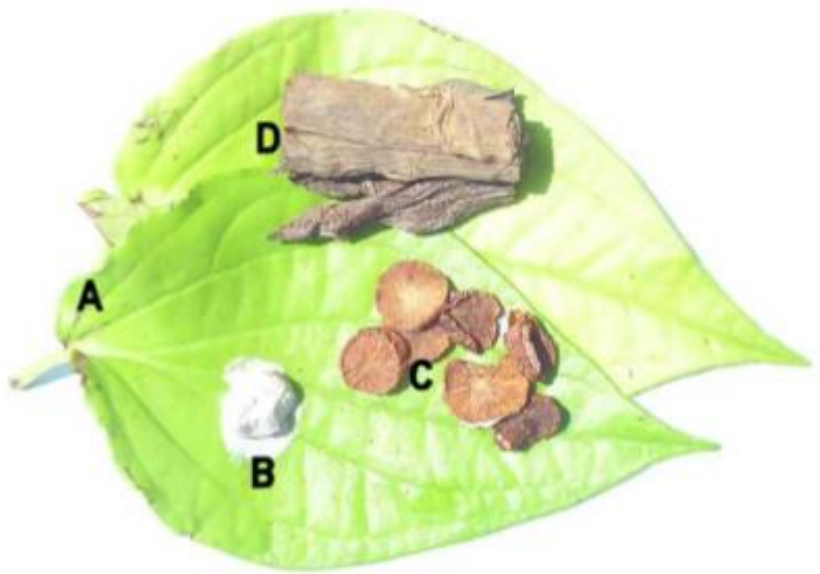
Type and Site: SCC, tongue and floor of mouth




Oral cancer risk
Not modifiable:
• Age
• Ethnicity
• Social-economic status
Modifiable:
• Smoking
• Alcohol consumption
• Diet
• Lifestyle/Betel Quid
Emerging risk factors:
• Human papillomavirus infection (HPV)
• Immunosuppression
• Mate drinking
Controversial factors with *limited* evidence:
• Oral hygeine and dentition
• Indoor air pollution
Inconsistent, limited or no evidence for causing oral cancer:
• Hereditary and family risk
• Cannabis use
• Khat chewing
• NRT
• HIV infection
• Alcohol in mouth washes

Oral Cancer

- Risk Factors
  - Betel Quid chewing
    - India
    - Combination of plants
    - Submucous Fibrosis



Management of submucous fibrosis

Mild case=Monitoring in case of, patient should avoid irritation factors

Moderate case

Non-Surgical

1-Steriod injection

2-Enourage jaw opening

Sever case (less than 20mm mouth opening)

Surgical removal of fibrous band (the most successful)

Presentation of oral cancer

1-Ulcer

2-Nodular mass

3-Erythroplakia

4-Speckled leukoplakia

5-Leukoplakia

Leukoplakia

- **Definition:** a whitish patch or plaque that cannot be characterized clinically or pathologically as any other disease, and is not associated with any physical or chemical causative agent, except the use of tobacco.
- between 5% and 25% of these lesions are premalignant

Leukoplakia

- Hyperplasia
- Dysplasia
- Carcinoma in situ (CIS)
- Invasive Carcinoma

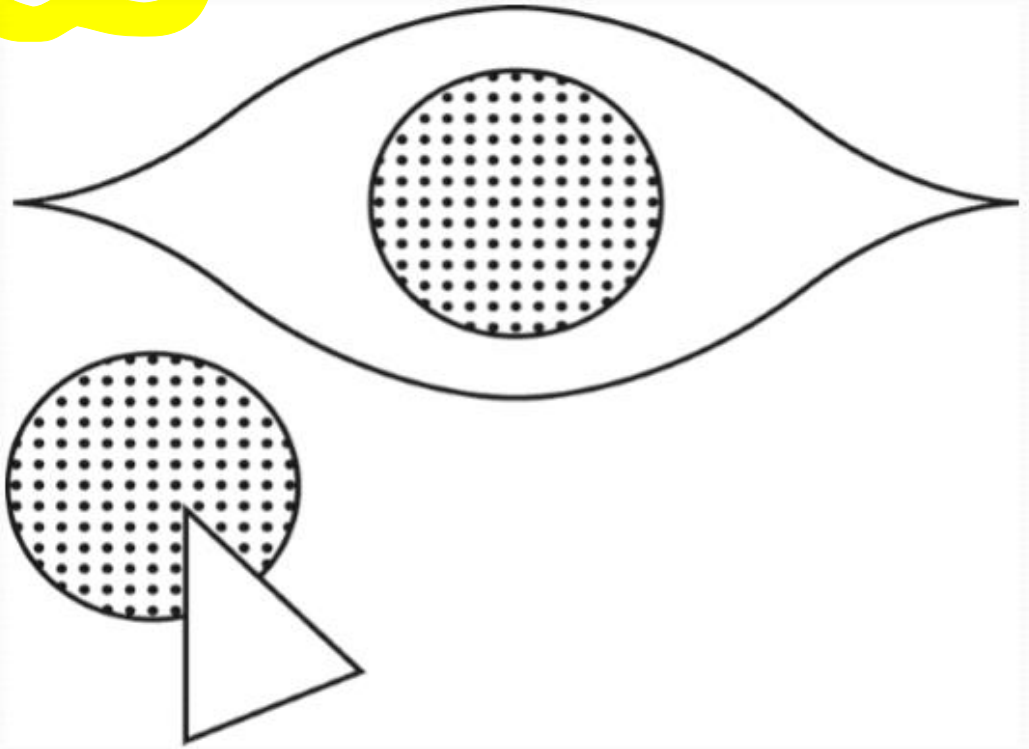
Oral Cancer

Oral Cancer

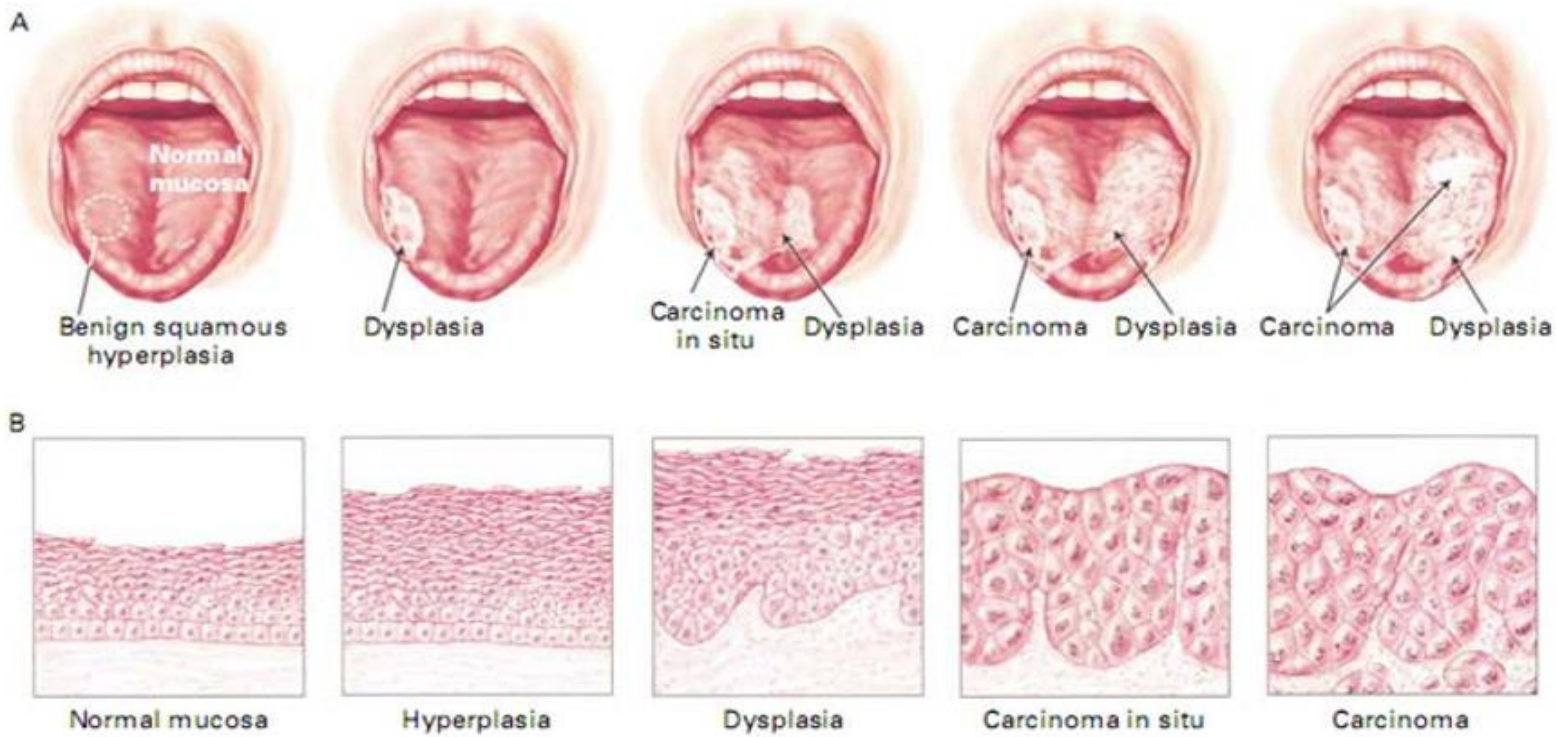
The biopsy of choice of any suspicious oral lesion is incisional biopsy

Oral Cancer

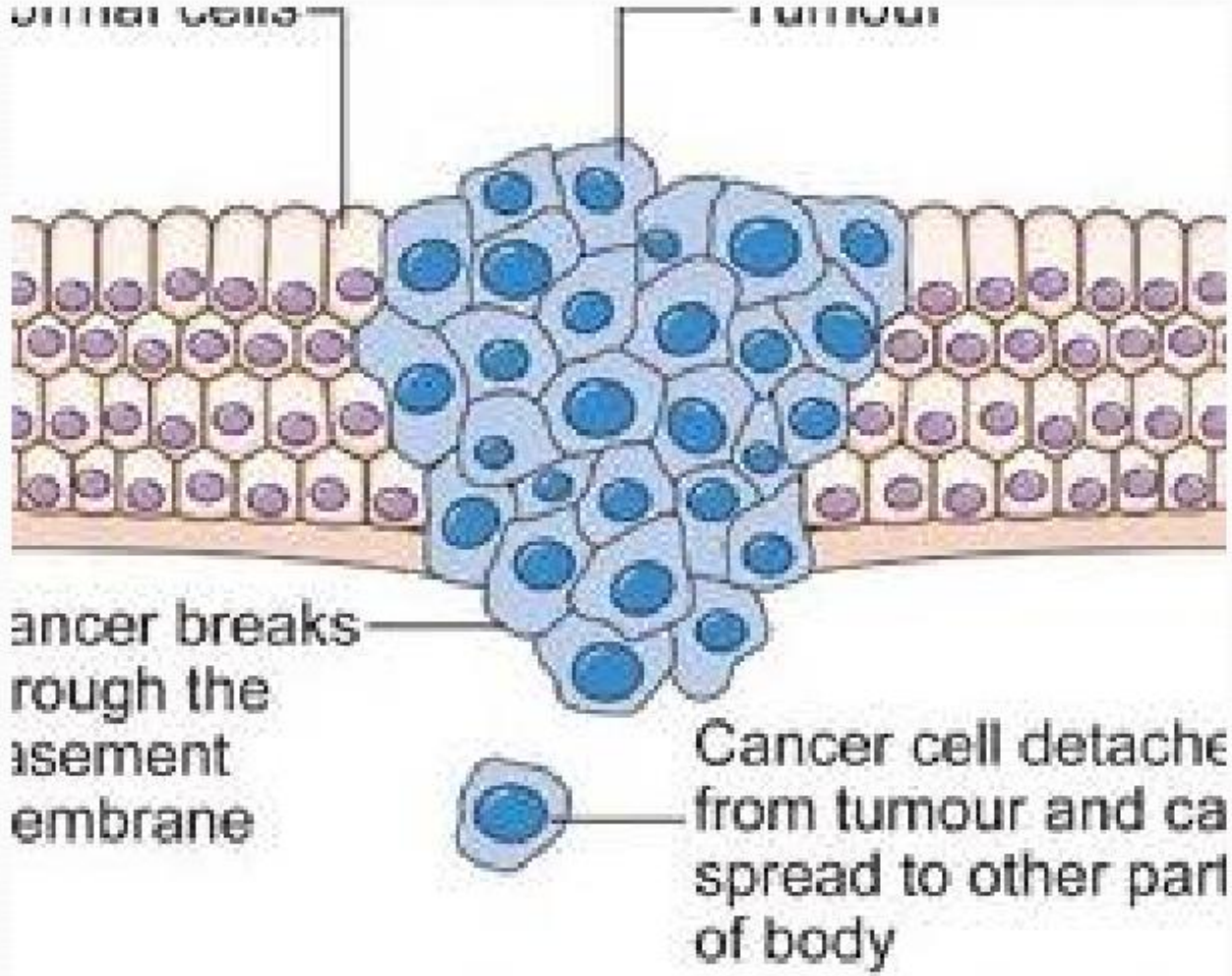
- Scalpel Biopsy



Oral Cancer


A
Normal mucosa
Benign squamous hyperplasia
Dysplasia
Carcinoma in situ
Dysplasia
Carcinoma
Dysplasia
Carcinoma
Dysplasia
B
Normal mucosa
Hyperplasia
Dysplasia
Carcinoma in situ
Carcinoma

Oral Cancer


ancer breaks
rough the
asement
embrane
Cancer cell detache
from tumour and ca
spread to other part
of body

Prognostic factors in Oral caner

- TNM staging
- T-stage
- N-stage
- M-stage
- Site
- Histological Factors
- Vascular & Perineural Invasion
- Surgical Margins
- Age, sex, race

T primary lesion	
TX	Primary tumor cannot be assessed
T0	No evidence of primary tumor
Tis	Carcinoma in situ
T1	Tumor 2 cm or less in greatest dimension
T2	Tumor more than 2 cm but not more than 4 cm in greatest dimension
T3	Tumor more than 4 cm in greatest dimension
T4a*	Tumor invades adjacent structures (e.g., through cortical bone, into deep [extrinsic] muscle of the tongue, maxillary sinus, skin of face) (resectable)
T4b	Tumor invades masticator space, pterygoid plates, or skull base or encases internal carotid artery (unresectable)

N Regional lymph node	
NX	Regional lymph nodes cannot be assessed
N0	No regional lymph node metastasis
N1	Metastasis in a single ipsilateral lymph node, 3 cm or less in greatest dimension
N2	Metastasis in a single ipsilateral lymph node, more than 3 cm but not more than 6 cm in greatest dimension; or in multiple ipsilateral lymph nodes, none more than 6 cm in greatest dimension; or in bilateral or contralateral lymph nodes, none more than 6 cm in greatest dimension
N2a	Metastasis in a single ipsilateral lymph node more than 3 cm but not more than 6 cm in greatest dimension
N2b	Metastasis in multiple ipsilateral lymph nodes, none more than 6 cm in greatest dimension
N2c	Metastasis in bilateral or contralateral lymph nodes, none more than 6 cm in greatest dimension
N3	Metastasis in a lymph node more than 6 cm in greatest dimension

N1
<3 cm

N2a
3-6 cm

N2b
Multiple nodes

Bilateral

N2c
or

Contralateral node(s) <6cm

N3
>6cm
Single or multiple

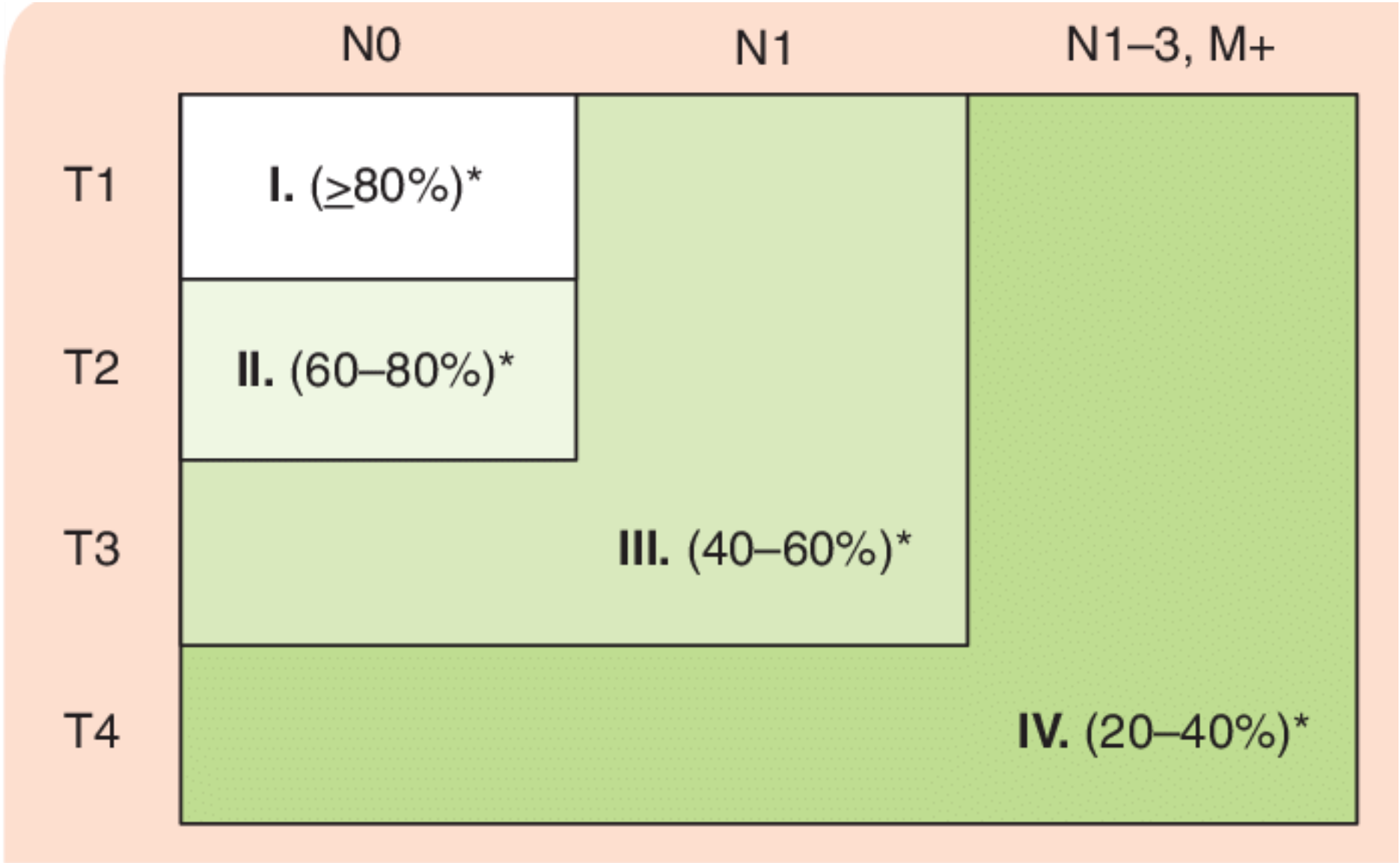
TNM Staging

Stage Grouping			
Stage 0	Tis	N0	M0
Stage I	T1	N0	M0
Stage II	T2	N0	M0
Stage III	T3	N0	M0
	T1	N1	M0
	T2	N1	M0
	T3	N1	M0
Stage IVA	T4a	N0	M0
	T4a	N1	M0
	T1	N2	M0
	T2	N2	M0
	T3	N2	M0
	T4a	N2	M0
Stage IVB	Any T	N3	M0
	T4b	Any N	M0
Stage IVC	Any T	Any N	M1

Prognosis-Site

- Oral better than oropharynx
- Anterior better than posterior
- Form local recurrence point of view buccal mucosa, is the worst
- Tongue ? Recurrence or invasion

Staging



Prognosis-Histological

The aggressive behavior of the tumor

- Perineural and vascular invasion
- Differentiation
- Surgical Margins

Prognosis (Age, sex, race)

- Younger than 40 increase
- Male or female?
- Africans

Relative Survival Rate

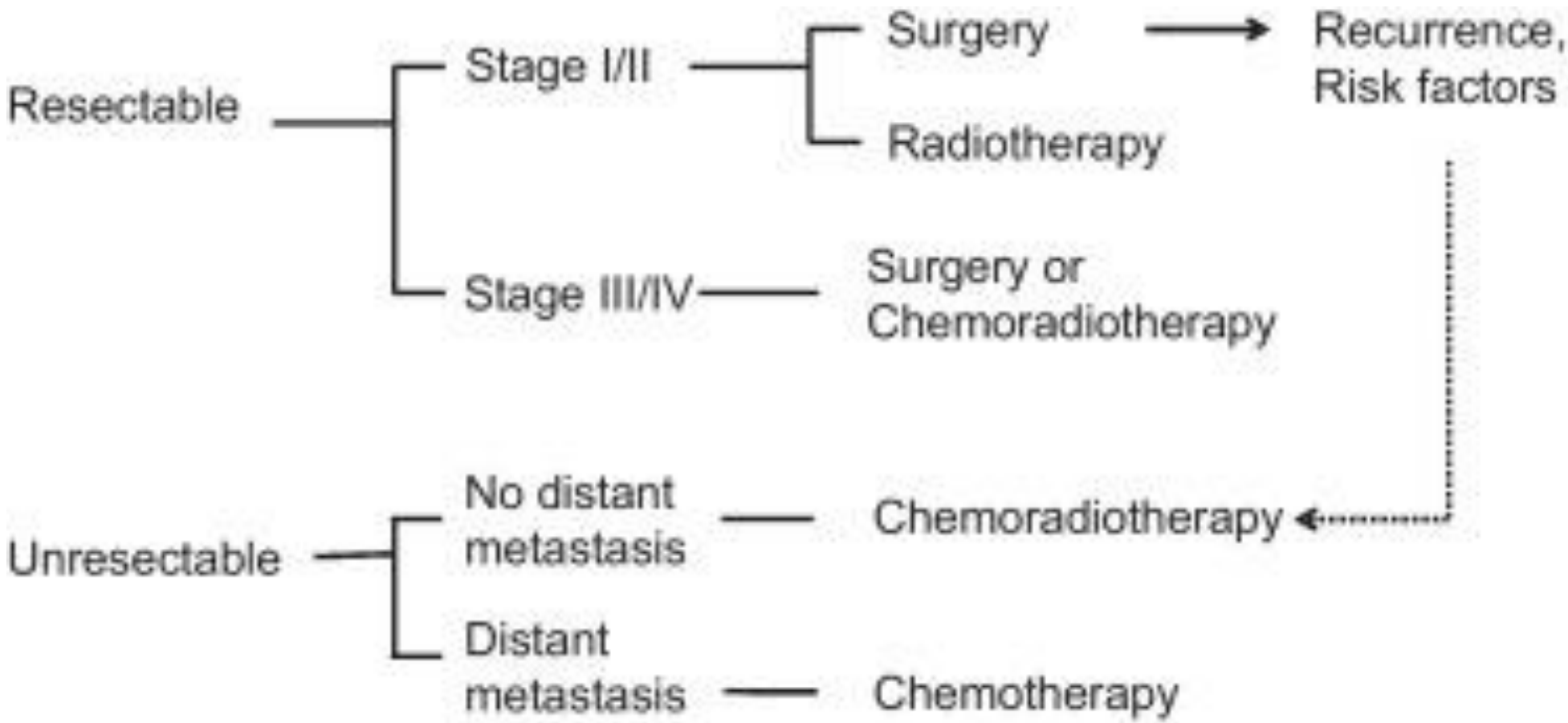
5-year relative survival rate	Race/ sex
62.4%	White Male
63.8%	White Female
38.2%	Black Male
53.2%	Black Female

Modalities of management of oral cancer

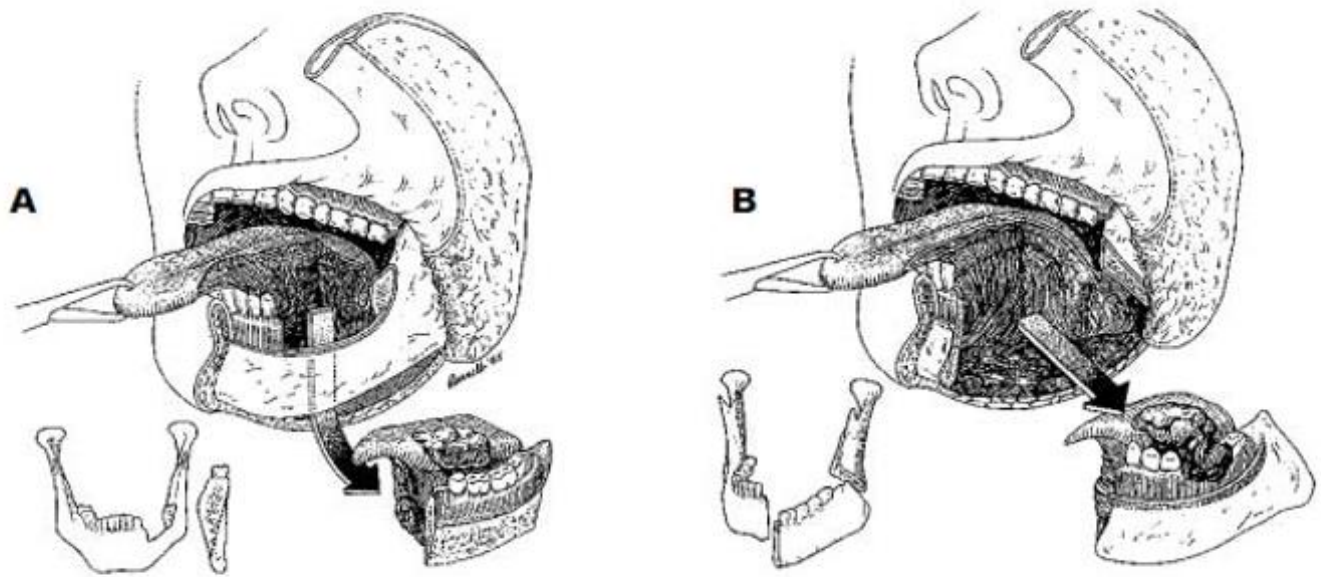
1-Surgery
2-Radiotherapy
3-Chemotherapy

Management of oral cancer

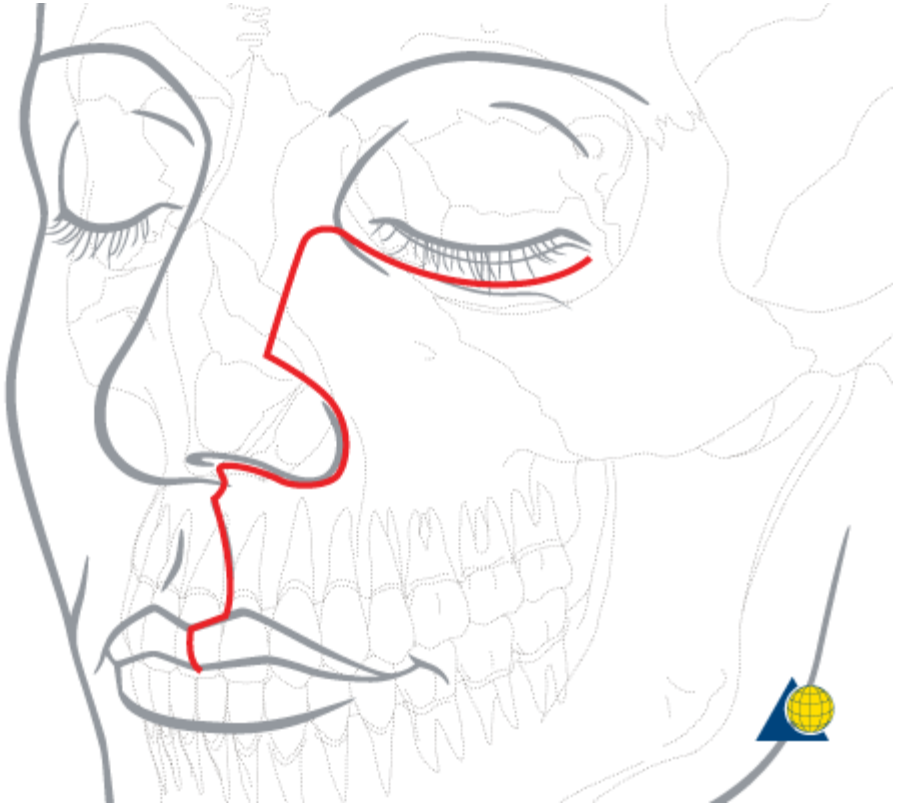
Curative
Palliative


Resectable
Stage I/II
Surgery
Recurrence,
Risk factors
Radiotherapy
Stage III/IV
Surgery or
Chemoradiotherapy
Unresectable
No distant
metastasis
Chemoradiotherapy
Distant
metastasis
Chemotherapy

Bone resection



Weber Ferguson incision is used for approach to maxillectomy



Indications of radiotherapy

- T1-T2 lesions

- T3,T4 Locally advanced lesions
  - Post surgical treatment
  - Only therapy if surgery not possible

- Cervical lymph node

  Pre-surgical & post surgical in combination with neck dissection for clinically positive lymph nodes.

Complications of radiotherapy

COMPLICATION	INCIDENCE
Xerostomia (dry mouth)	78%–95%
Dysgeusia (change in taste)	90%
Anorexia/weight loss/malnutrition	55%–85%
Chewing/eating difficulties	70%
Mucositis/stomatitis	39%
Dysphagia	65%
Radiation necrosis (osteoradionecrosis)	5%–15%
Infection	14%

Neck management

- 30-40% neck involved during presentation
- Occult metastases
- Sentinel lymph node biopsy

Neck dissection

- Remove and detect occult metastases “elective”
- Remove clinically evident neck “therapeutic”

Neck Dissection

- Radical Neck Dissection (RND) 1906
  - Lymph nodes (I-V)
  - Non-lymphatic structures
    - SAN
    - SCM
    - IJV