Oral Cancer: What you need to know.

- Dr. Andre Farquharson
- MDH-MDAC/OOH
- 16th Annual Ava Roberts
- Oral Health Symposium
- October 3, 2025

Objectives

- Discuss the prevalence of oral cancer.
- Identify the signs and symptoms of oral cancer.
- Explain what’s an oral cancer screening examination.
- Identify most common sites to see oral cancer.
- Identify the common etiology of oral cancer.
- Identify different types of oral cancer and look a likes.
- Provide early detection for oral cancer.
- List the methods to detect oral cancer.
- What to do when diagnosis is made.

Oral Cancer
What is It?

It is a premalignancy or maliganacy found in the perioral and oral region.

- The Lip
- The Vestibule
- Buccal Mucosa
- Floor of Mouth
- Tongue
- Alveolar ridge
- Gingiva

Hard Palate

Tuborosity

Retromolar Pad

Soft Palate

Oral Pharynx

Maxilla

Mandible

What can we Do?

Medical History

- The medical history comprises a systematic review of the patient's chief or primary complaint, a detailed history related to this complaint, information about past and present medical conditions, pertinent social and family histories, and a review of symptoms by organ system.

Top Causes of Death

- Heart disease-690,882
- Cancer-598,932
- COVID-345,323
- CVA-159,050
- Accidents-192,176
- Alzheimer's-133,382
- Diabetes-101,106
- Influenza-53,495
- Nephritis-52,260
- Suicide-44,834
- Gunshots-15,267
- Liver disease-51,652
- Opioid overdose-80,411
- Parkinson's-23,107
- Stress-120,231
- Pneumonia-20,000

Let’s talk about Cancer

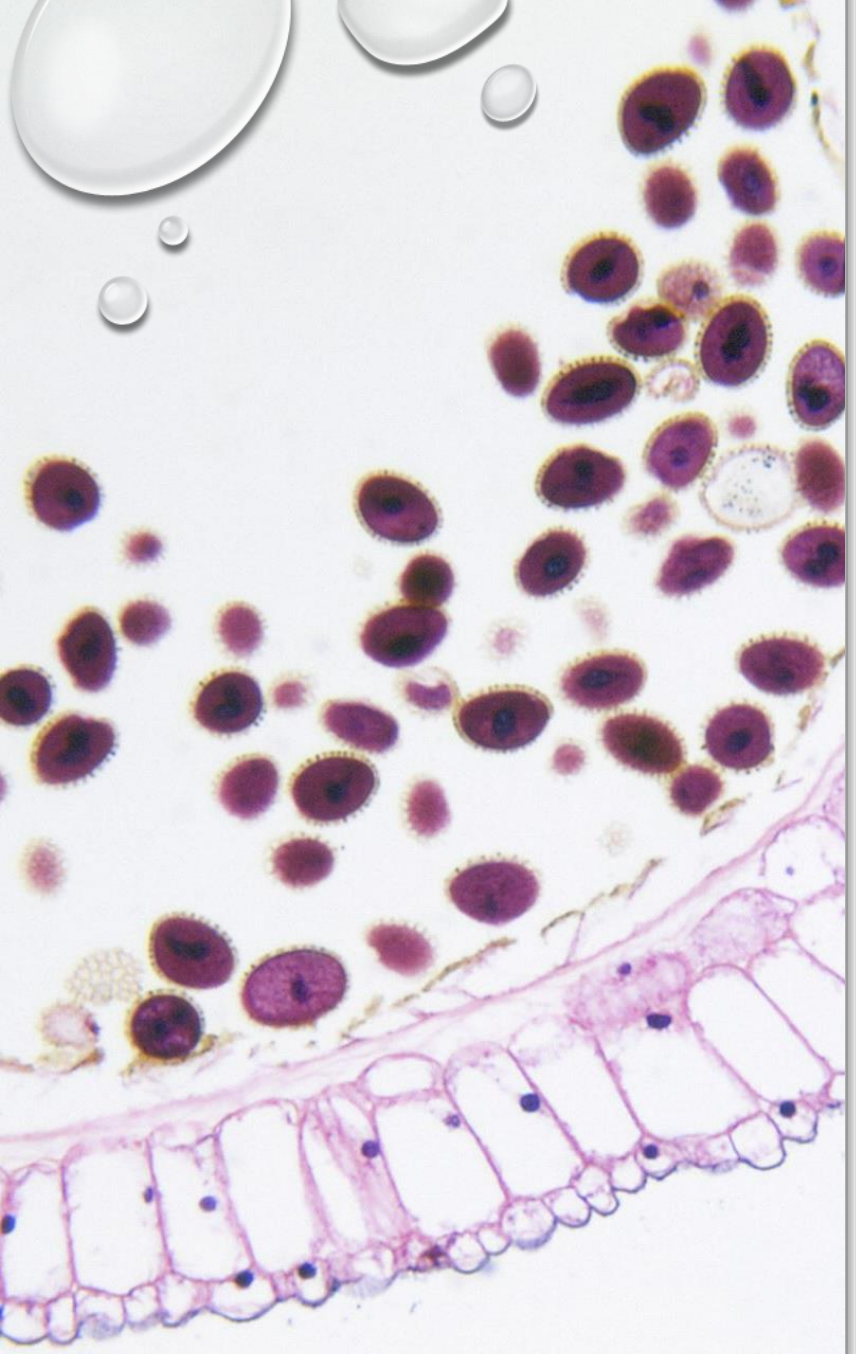
- Oral Cancer Specifically

Oral Cancer

- 390,000 new oral cancer cases worldwide annually
- Thirteenth most common cancer in Worldwide
- 189, 000 deaths worldwide annually
- 70% diagnosed in late stages – III & IV
  - 57% diagnosed will survive within 5 years
  - 48% diagnosed will survive within 10 years
  - Higher rate of death than Hodgkin's disease, Liver, Kidney, Cervical, Skin, Melanoma, Ovarian and Brain cancers

ORAL CANCER

- ORAL CANCER ACCOUNTS FOR 3% OF ALL CANCERS IN THE UNITED STATES.
- 11TH MOST COMMON CANCER AMONG MALES
- 18TH MOST COMMON CANCER AMONG FEMALES
- 60,000 CASES ARE SEEN ANNUALLY
  - 40,000 ARE MEN AND 20,000 ARE FEMALES
- APPROXIMATELY 12,770 DEATHS OCCUR ANNUALLY
  - ONE PERSON DIES OF ORAL CANCER AN HOUR
- MOST ORAL CANCERS ARE ADVANCED BY THE TIME THEY ARE DIAGNOSED
- ONE PERSON DIES OF ORAL CANCER EVERY HOUR



ORAL CANCER

- 90% ARE SQUAMOUS CELL CARCINOMA(SCCA)
- LEUKOPLAKIA IS THE MOST COMMON ORAL PRECANCER
- THEY ACCOUNT FOR 85% OF SUCH LESIONS
- 4% OF LEUKOPLAKIA'S BECOME SCCA
- APPROXIMATELY 28% OF ERYTHROLEUKOPLAKIAS BECOME SCCA

Tobacco, Alcohol, Obesity, Processed Food

Etiology and Predisposing factors of Oral Cancer

- Tobacco/Alcohol
  - Formaldehyde/Acetaldehyde
- Sunlight
  - Ultraviolet rays
- Immune
  - Oncogene
- Nutrition
  - Vitamins deficiency

- Viruses
  - Herpes(HSV, HHV)
  - Human Papilloma(HPV)
- Fungal
  - Candida strains
- Bacteria
  - Streptococcus viridans

Other Contributing factors

- **Betel Nut Use:**
  - The chewing of betel nuts aka Areca nut is a significant cause of oral cancer, particularly in Asia.
- **Lifestyle Factors:**
  - Obesity, processed foods, and sedentary lifestyles contribute to the rising rates of many cancers, including oral cancer.

New Cases of Oral Cancer in Maryland

- Maryland
  - Total
    - 838
  - European American
    - 613
  - African American
    - 161
  - Asian American
    - 37
  - Hispanic American
    - 20

So How Do We Detect Oral Cancer?

Evaluation, Assessment and Diagnosis

- Capture and document the patient's medical history
- Examining the patient
- Establishing a differential diagnosis
- Obtain additional information to make a final diagnosis, such as relevant Bloodwork and radiographic studies and consultations from other clinical specialist.
- Formulating a plan of action, including oral health care modifications and necessary medical referrals

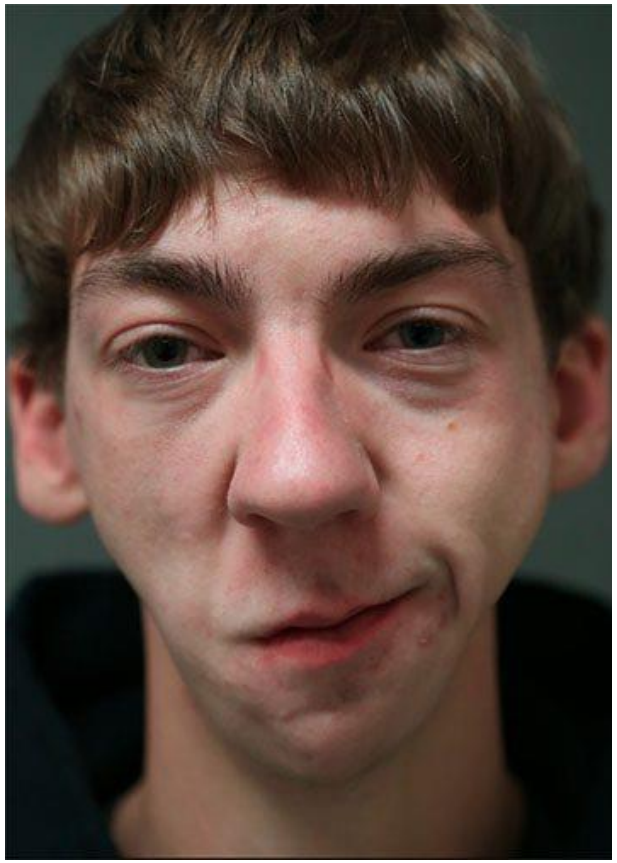
Clinical Examination

Visual Inspection

Clinical Examination

Visual Inspection

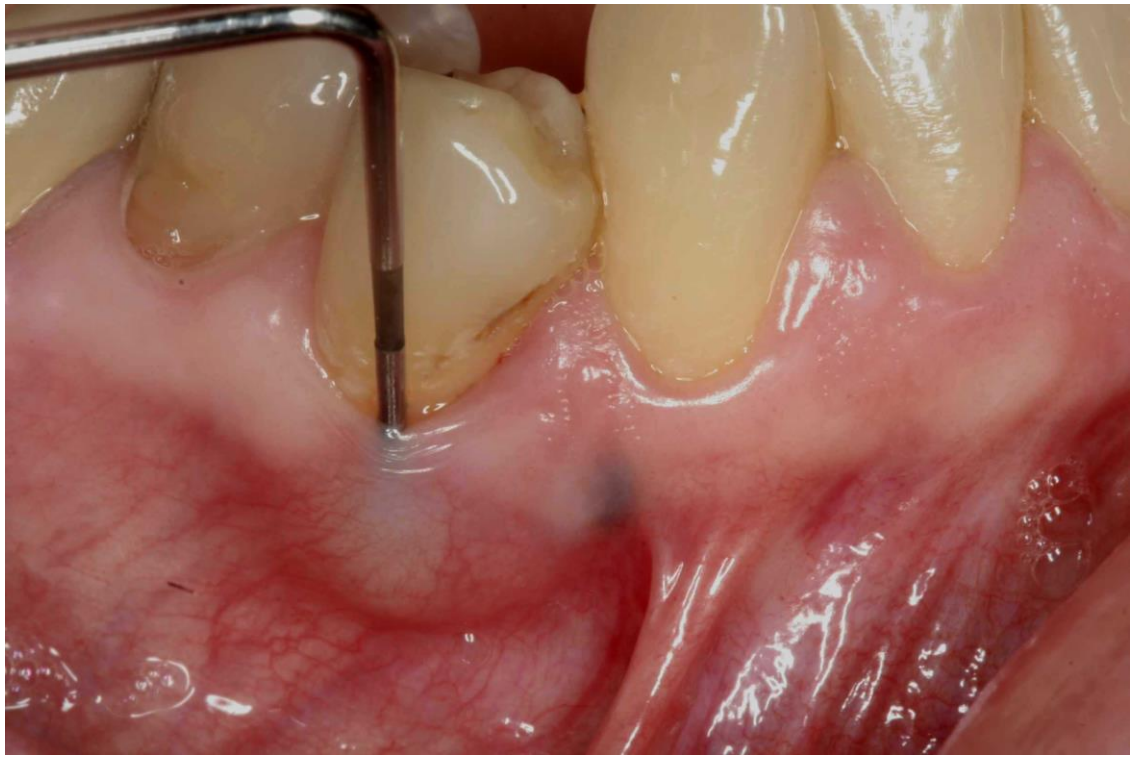
Visual Symmetry/Asymmetry



Palpation

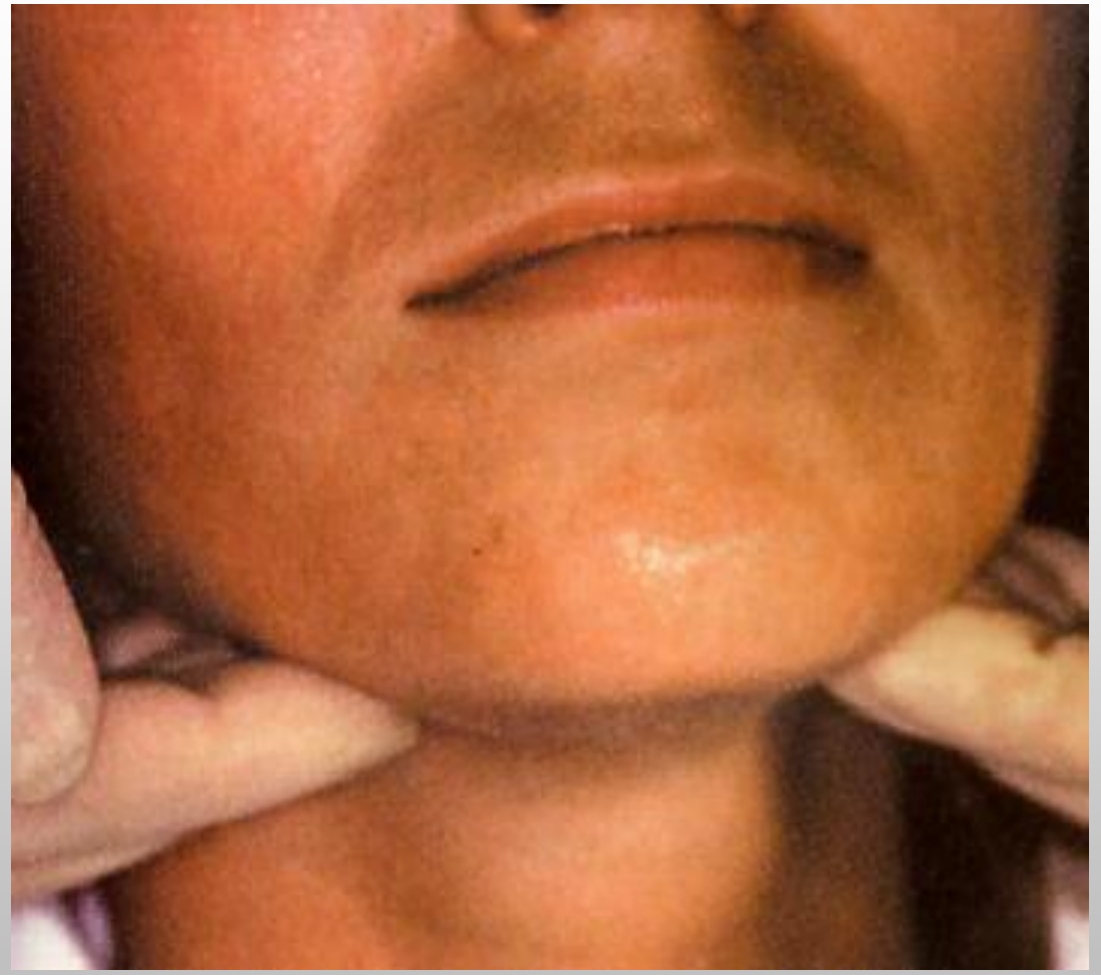
Percussion

Probing



NECK

FACE



LIPS

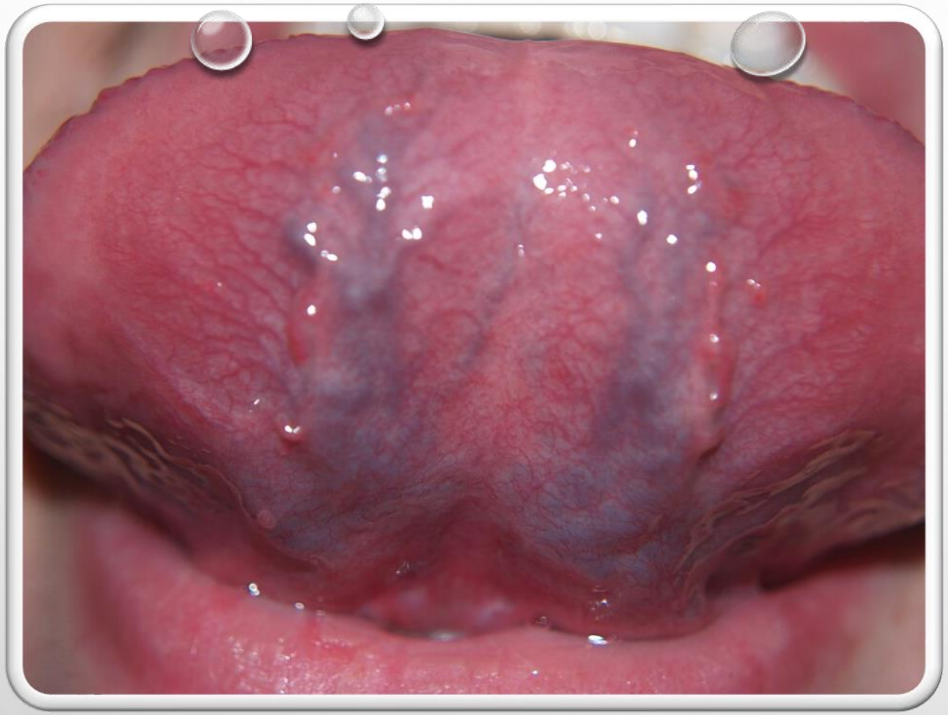
INTRA ORAL
LABIAL MUCOSA

BUCCAL MUCOSA

GINGIVA

DORSUM TONGUE

LATERAL BORDERS TONGUE



LINGUAL SURFACE OF TONGUE
FLOOR OF MOUTH

SOFT AND HARD PALATE

ORAL CANCER NOT ALL EQUAL

THE ARE DIFFERENT TYPES OF ORAL CANCER.

GLANDULAR

ADIPOSE

MUSCLE

CONNECTIVE TISSUE

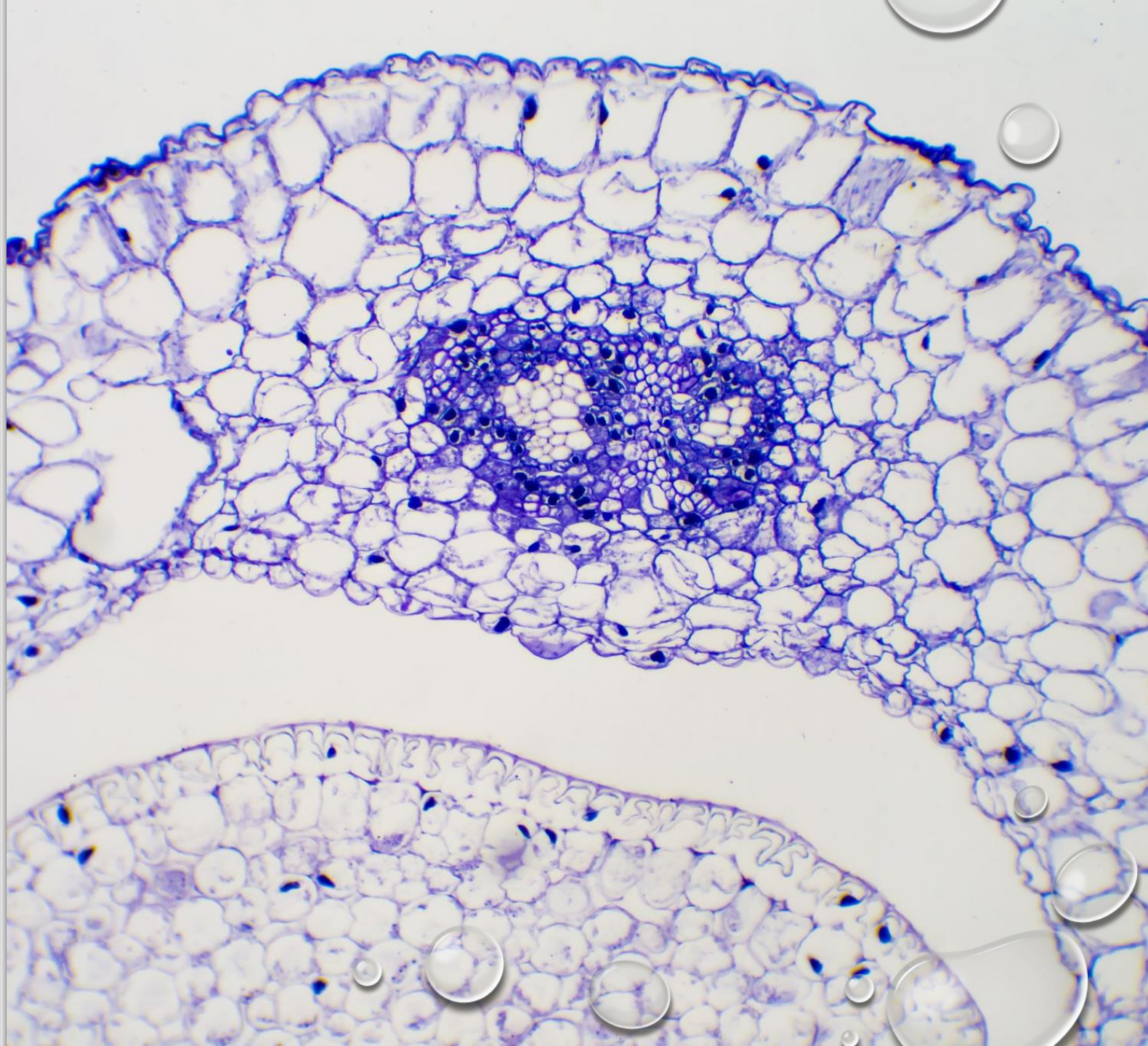
IMMUNE

VASCULAR

LYMPHATIC

BONE

EPITHELIAL



Cases

- Oral Cancer

Case 1

Age: 26 year old

Gender: Male

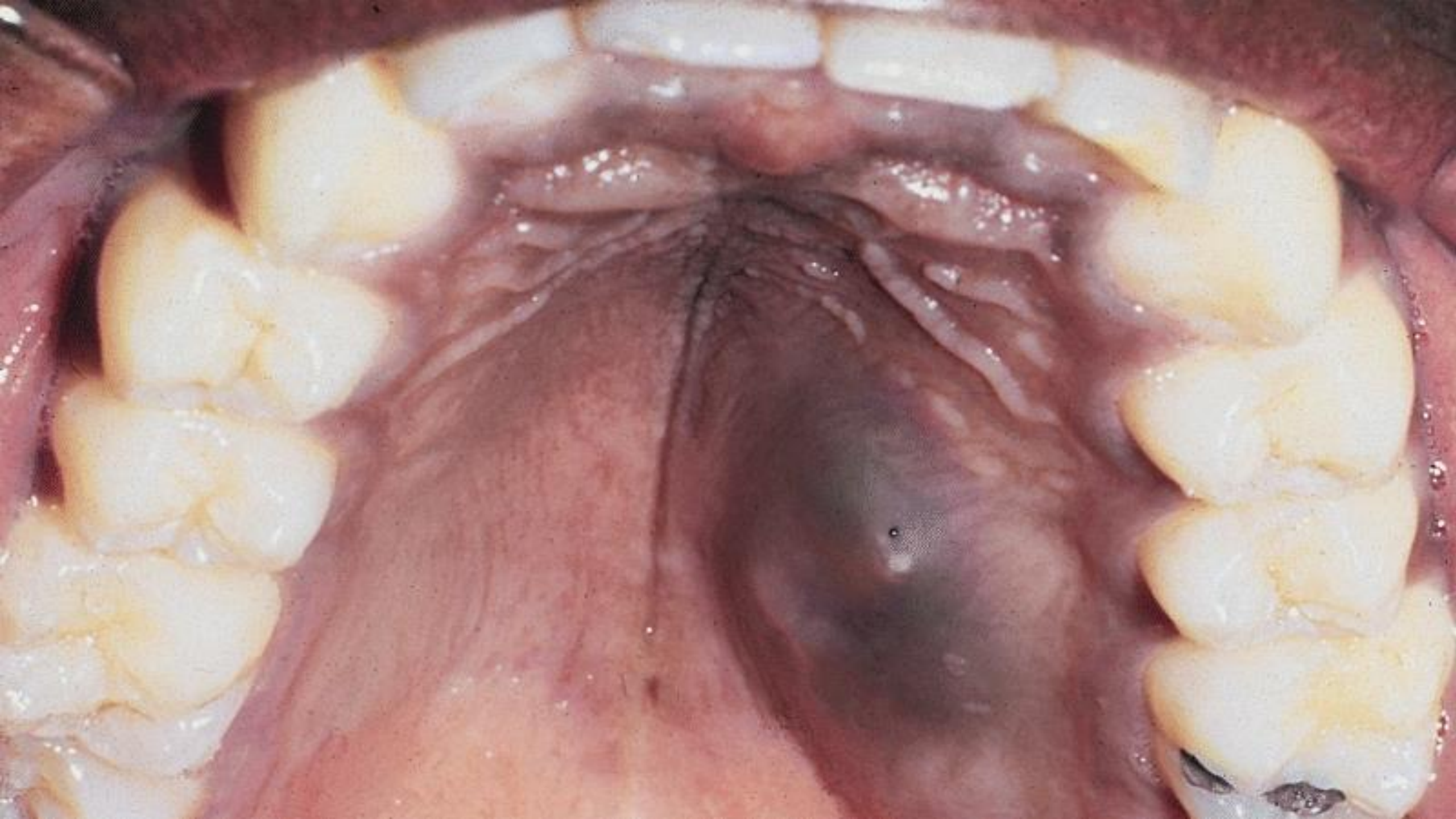
Chief Complaint: “There is a bump in my mouth.”

History:

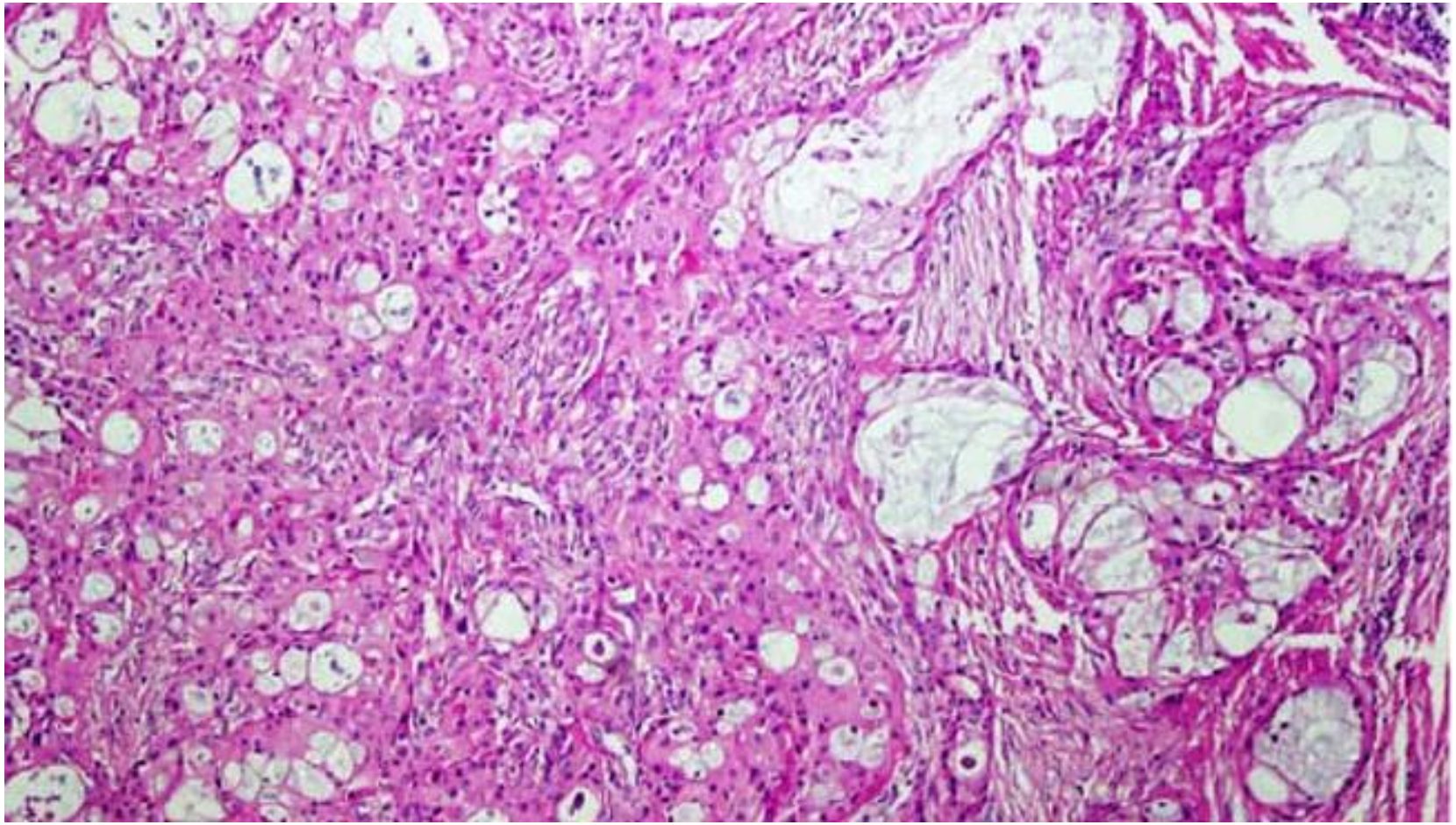
Patient smokes 4 cigarettes per day for about two years.

Drinks alcohol on weekends when out with friends

Likes sports and eating out at restaurants.

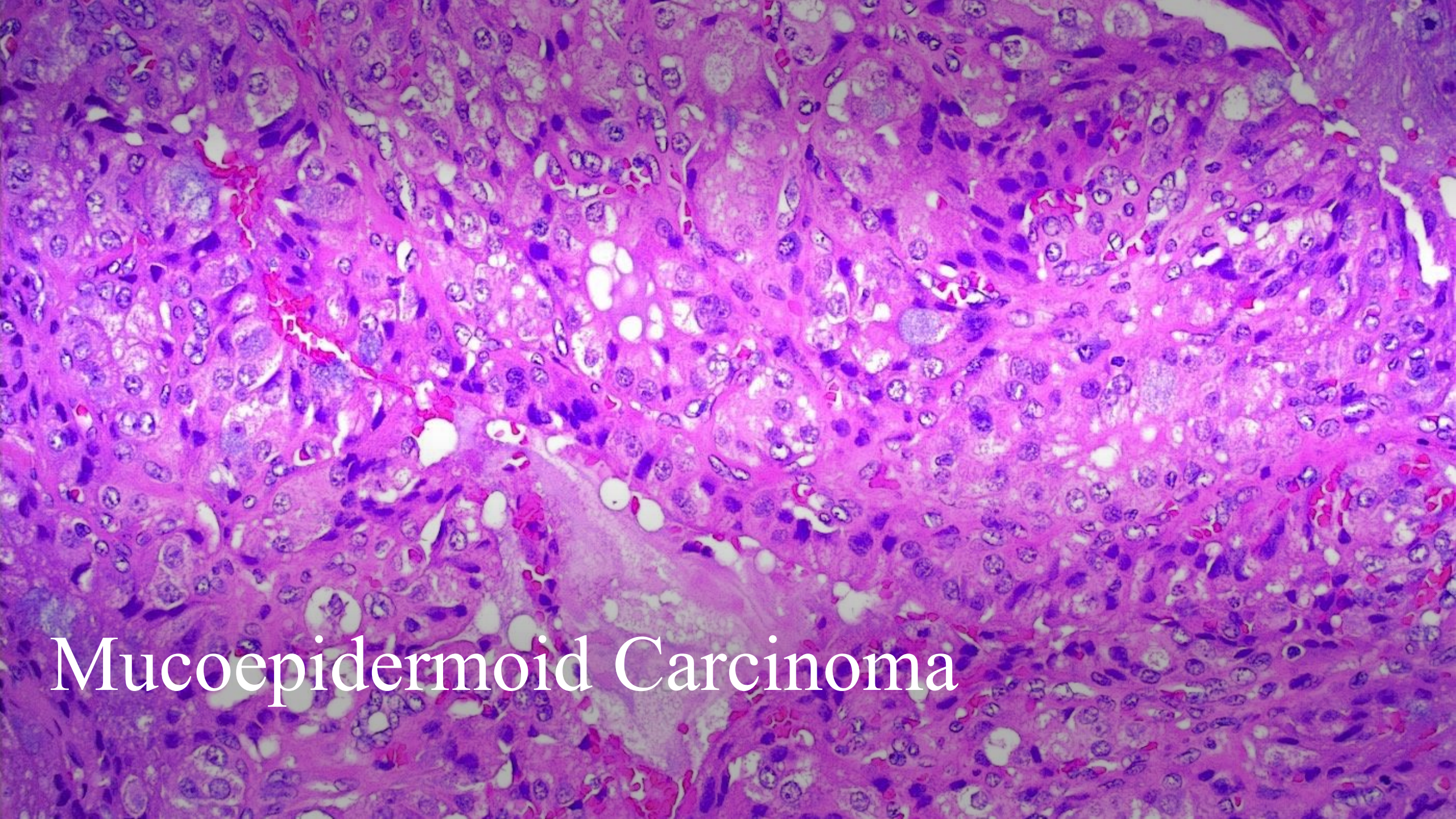


Histology



Case 1A

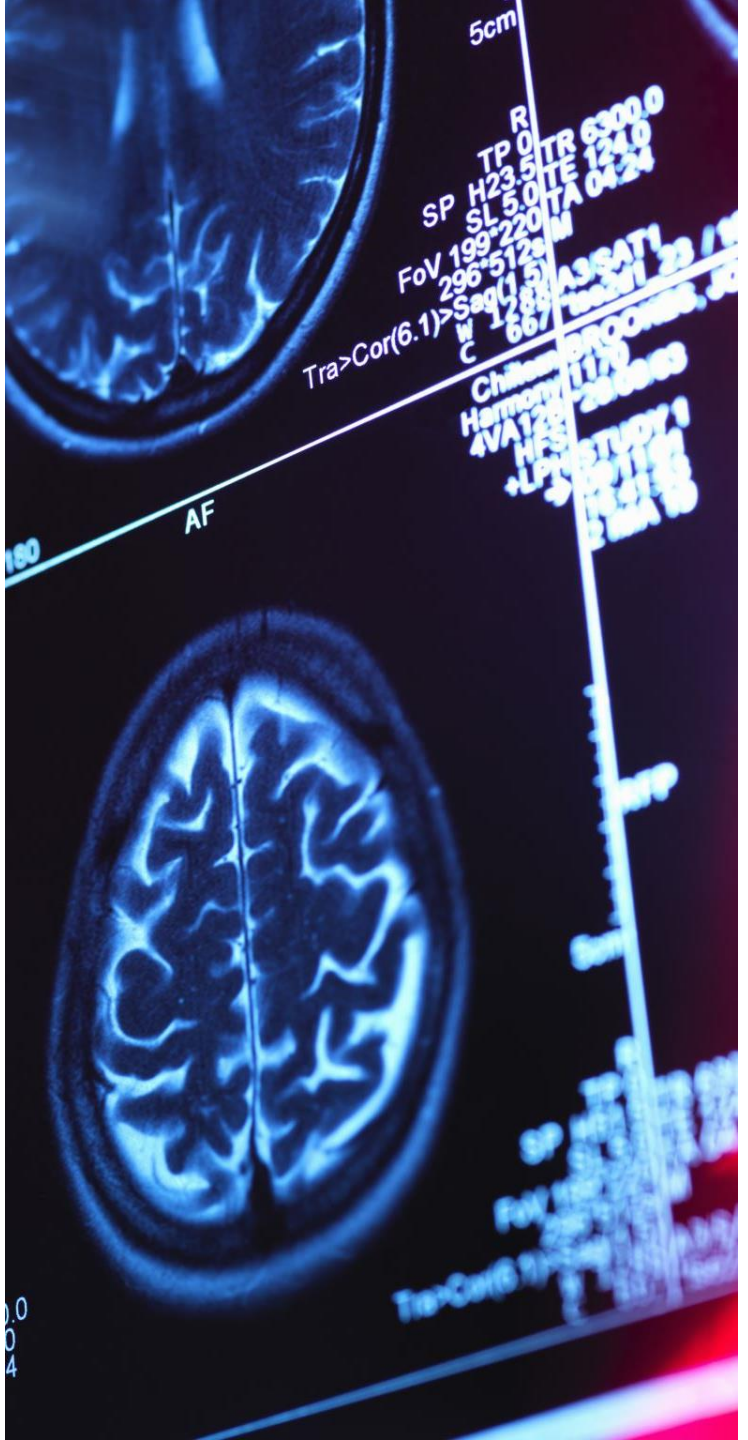
Age: 32 year old
Gender: Male
Chief Complaint: “ I have a swelling on my jaw.”
History:
Patient smokes 4 cigarettes per day for about two years.
Drinks alcohol for 15 years, twice a month at social club meetings
Its eats out at restaurants on weekends.



Mucoepidermoid Carcinoma

Mucoepidermoid Carcinoma

- is the most common malignant salivary gland neoplasm. In the United States, it makes up 10% of all major gland tumors and 23% of minor gland tumors.
- The tumor seen over a wide age range, extending from the twenty to seventh decades of life.
- Mucoepidermoid carcinoma is the most common malignant salivary gland tumor in children and adults.
- Histology
  - It is composed of a mixture of mucus-producing cells and squamous (epidermoid) cells .
  - The Intermediate cells vary in appearance from small, basaloid cells to slightly larger ovoid cells.



Case 2

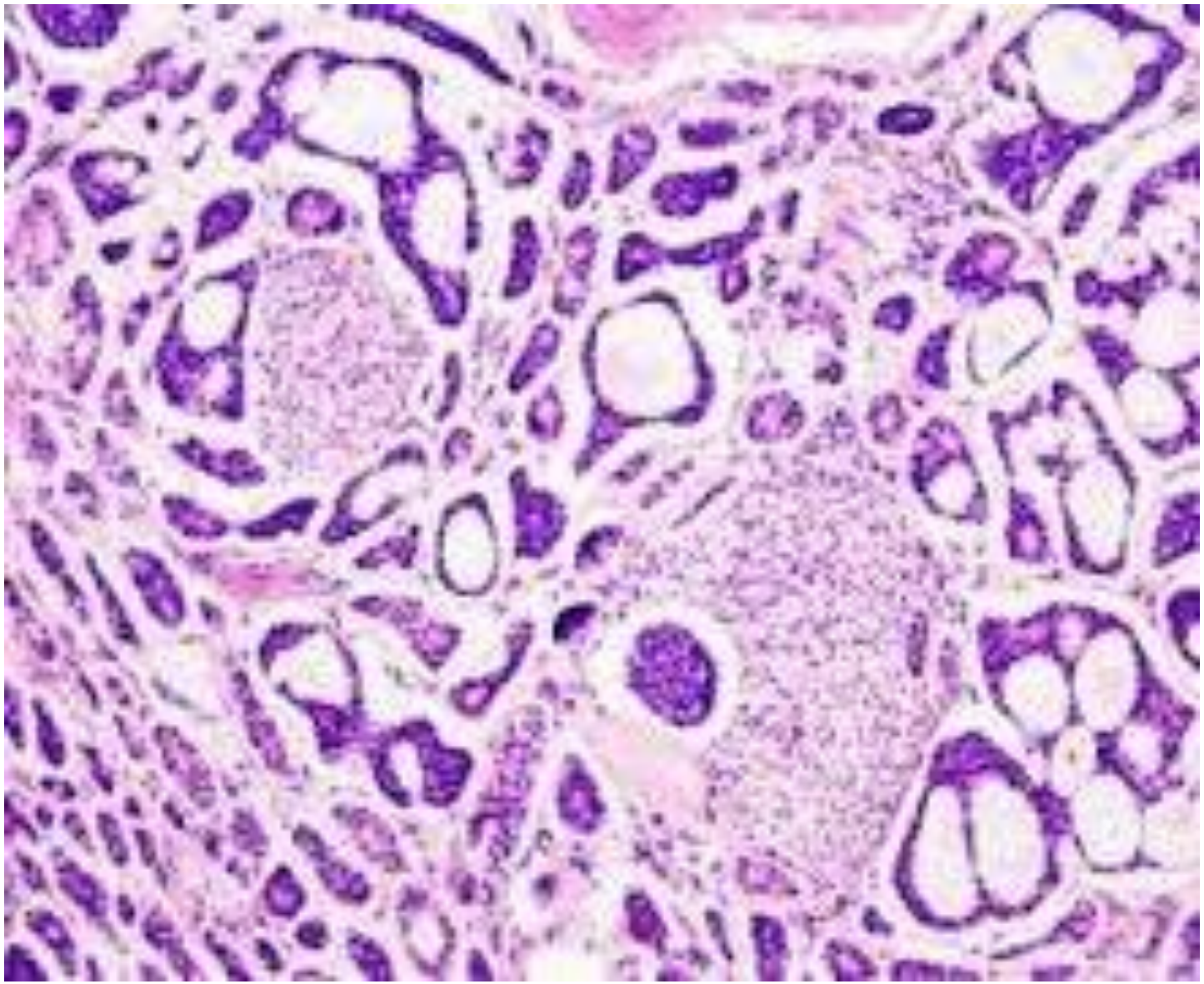
50 year old female presents with a complaint of a raised ulcer in the roof of her mouth. It hurts sometimes.

Patient has diabetes.

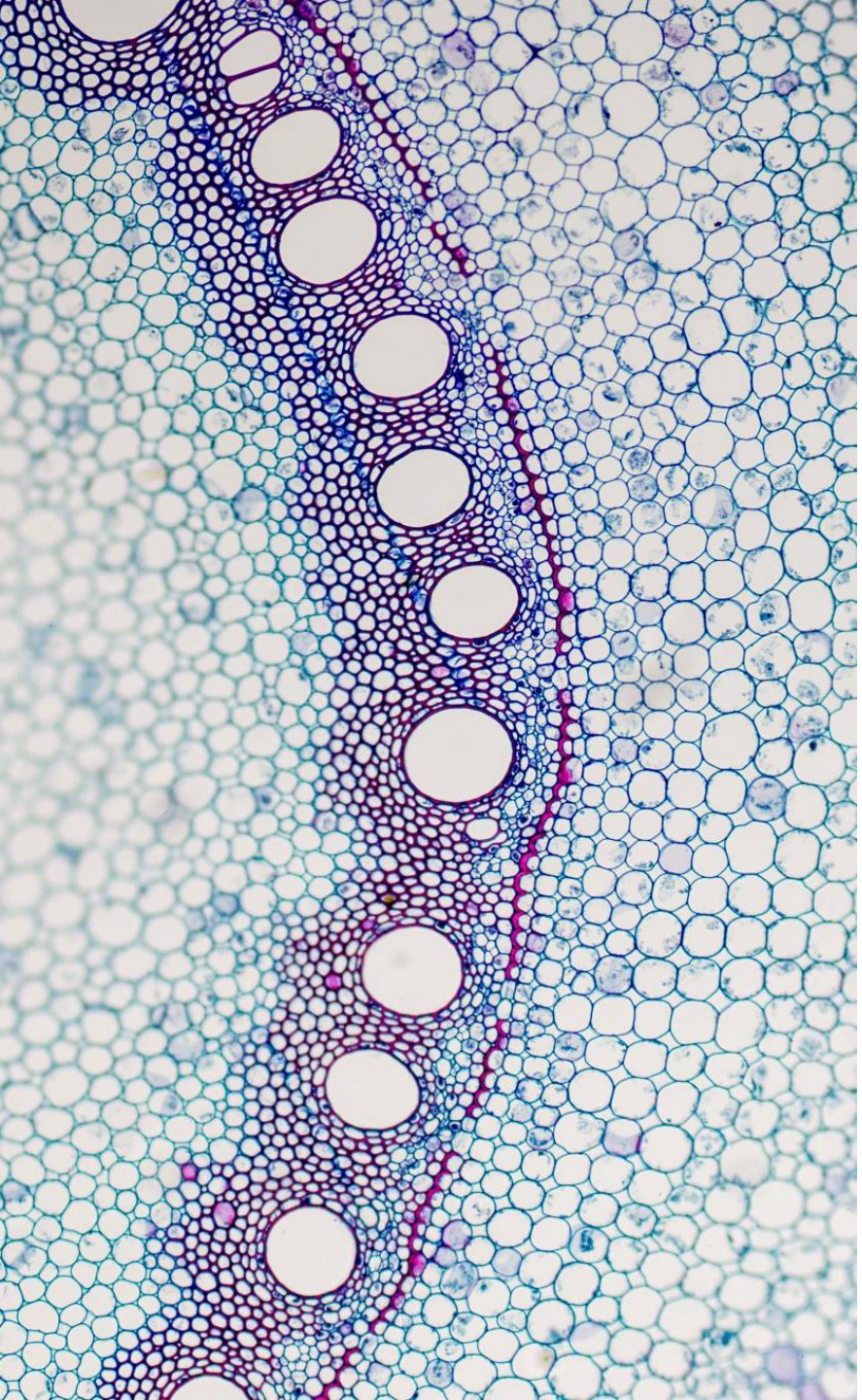
She takes oral medication Metformin

She is a social worker.

Histology

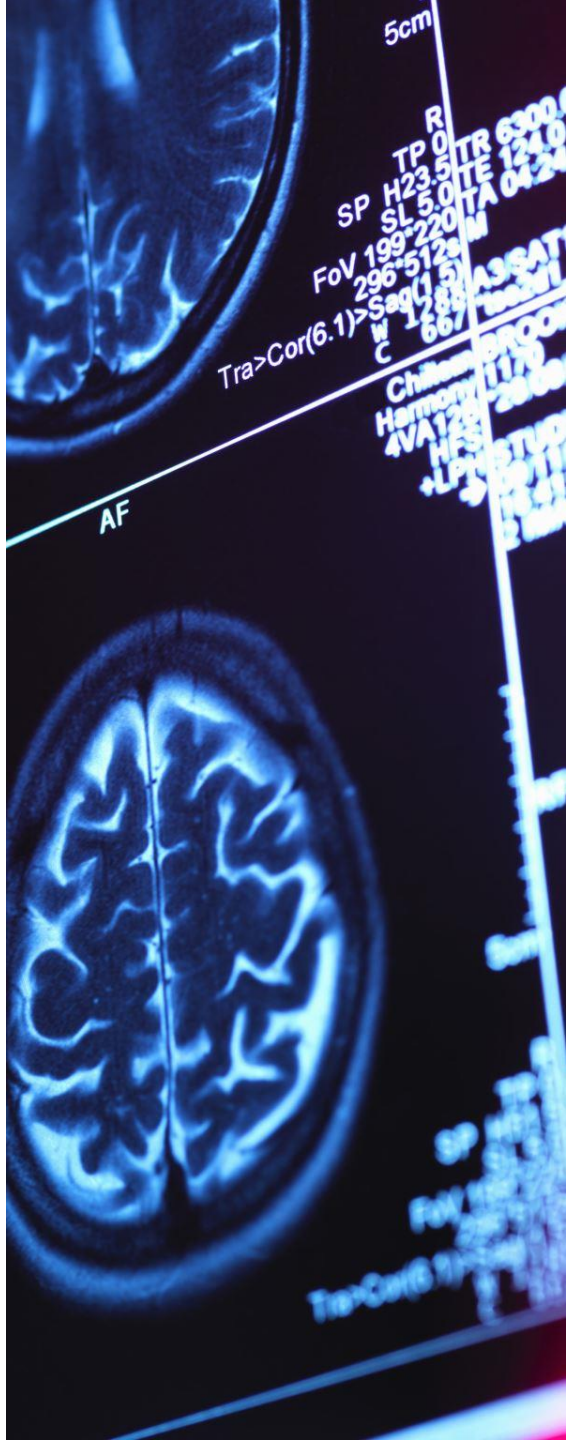


Andre Farquharson



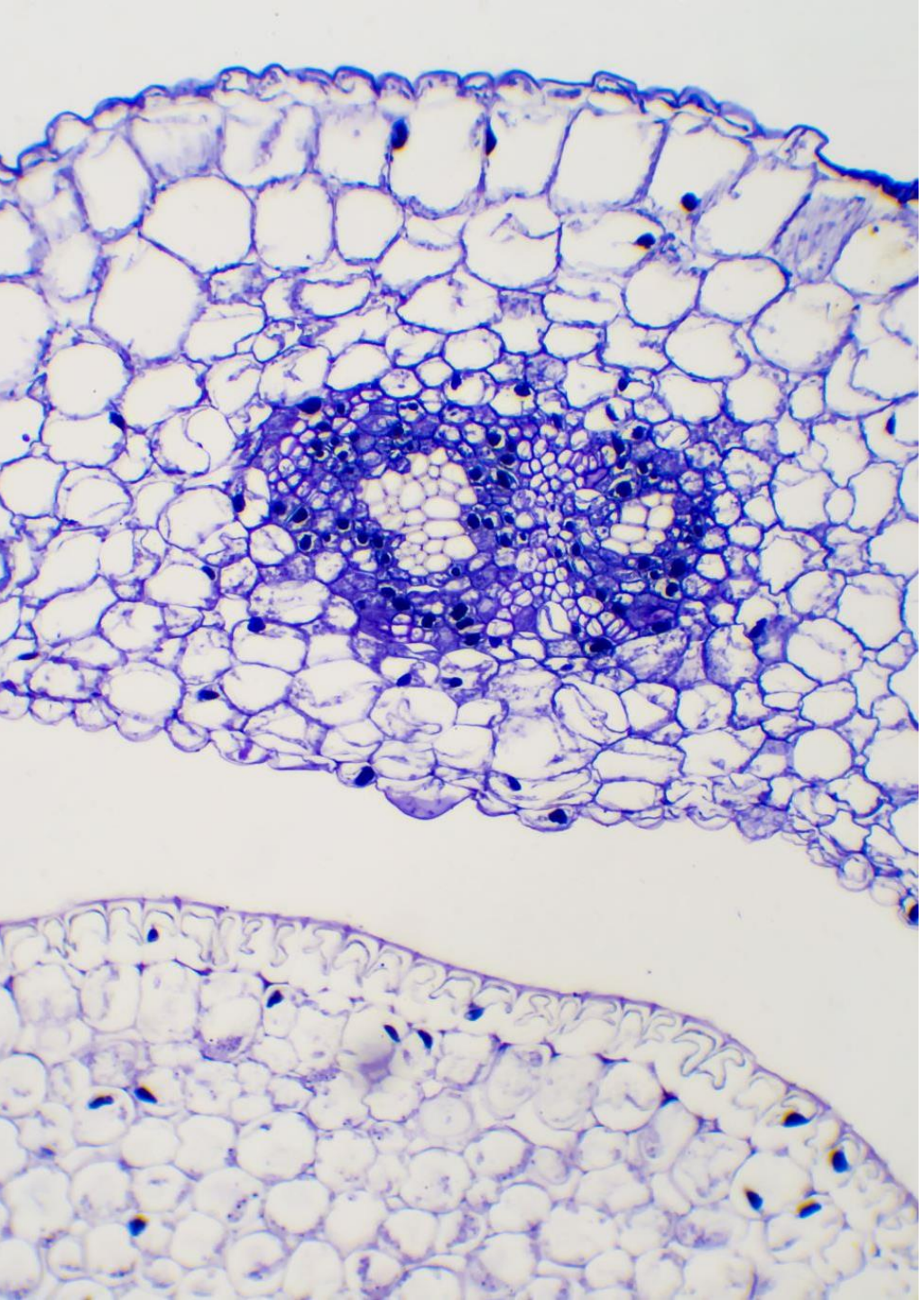
Adenoid Cystic Carcinoma

- The adenoid cystic carcinoma can occur in any salivary gland site, approximately up to 60% develop within the minor salivary glands.
- The palate is the most common site for minor gland tumors . The parotid and submandibular glands, are fairly even seen between these two sites.
- The adenoid cystic carcinoma usually appears as a slowly growing mass. Pain is a common and important finding.



Adenoid Cystic Carcinoma

- Patients often complain of a constant, low-grade, dull ache, which gradually increases in intensity.
- Palatal tumors can be smooth surfaced or ulcerated.
- Tumors arising in the palate or maxillary sinus often show radiographic evidence of bone destruction .

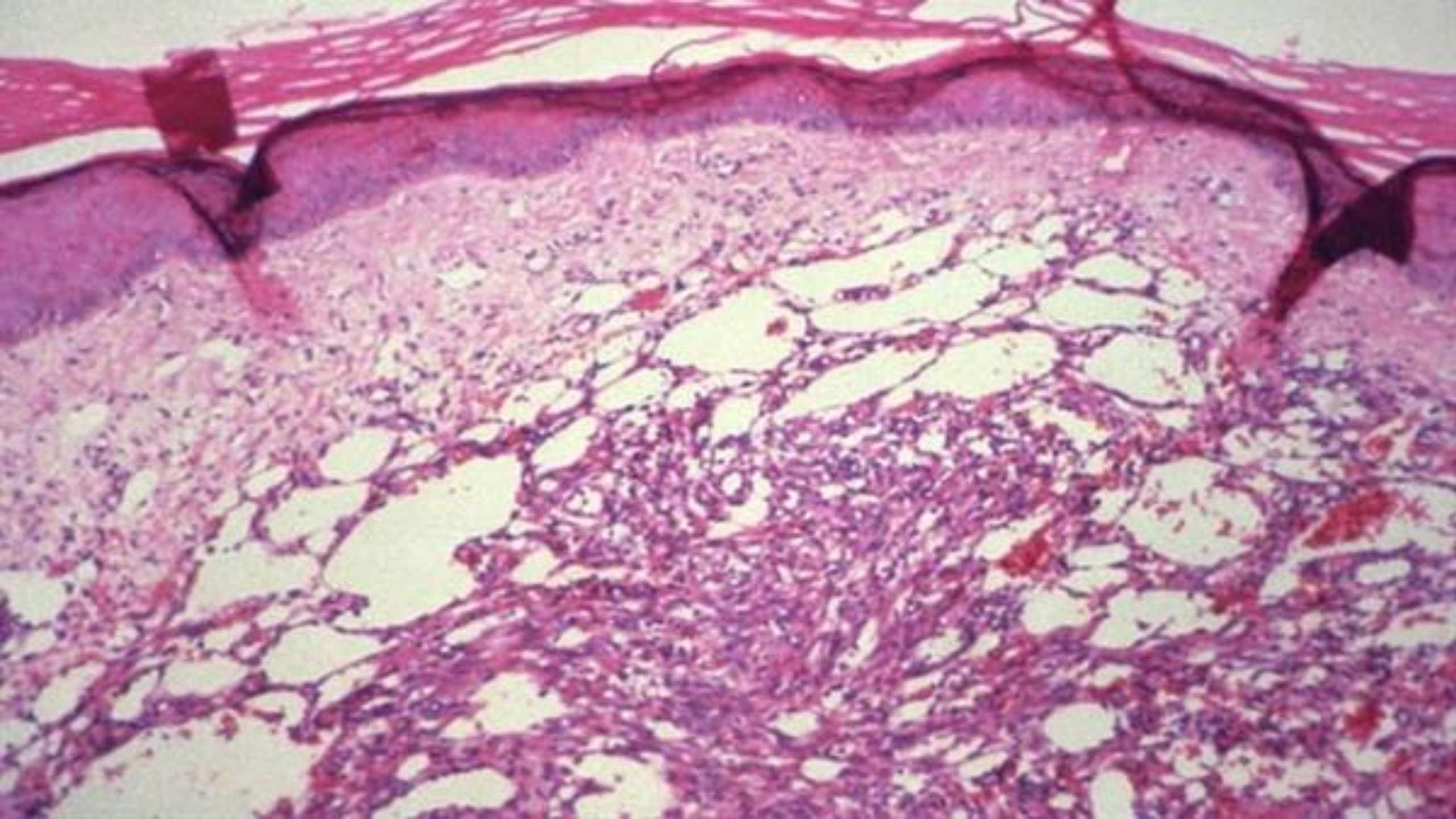


Histology

- Cribriform is the most classic and best-recognized appearance, characterized by islands of basaloid epithelial cells that contain multiple cylindrical, cystlike spaces resembling Swiss cheese.

Case 3

- Age: 27 year old
- Gender: Male
- Chief Complaint: “There is a reddish blue bump on the roof of my mouth.”
- History of Present Illness: The nodule on the palate was noticed 8 months ago. It started out flat.



Kaposi Sarcoma

- is an unusual vascular neoplasm that was described before the advent of the acquired immunodeficiency syndrome (AIDS) epidemic, it was a rare tumor.
- Beginning in the early 1980s, Kaposi's sarcoma became quite common because of its propensity to develop in individuals infected by the human immunodeficiency virus (HIV).
- These lesions grow slow over years and develop into painless tumor nodules.
- Oral lesions are rare and most frequently involve the palate.
- Current evidence suggests that Kaposi's sarcoma is caused by human herpesvirus 8.

Histology

Reveals an irregular, jagged vascular network that surrounds preexisting vessels.

The lesional endothelial cells have a bland appearance with proliferation of these vascular channels along with the development of a significant spindle cell component and slit like vascular spaces are noted.

The spindle cells increase to form a nodular tumorlike mass.

Case 4

Age: 60 year old

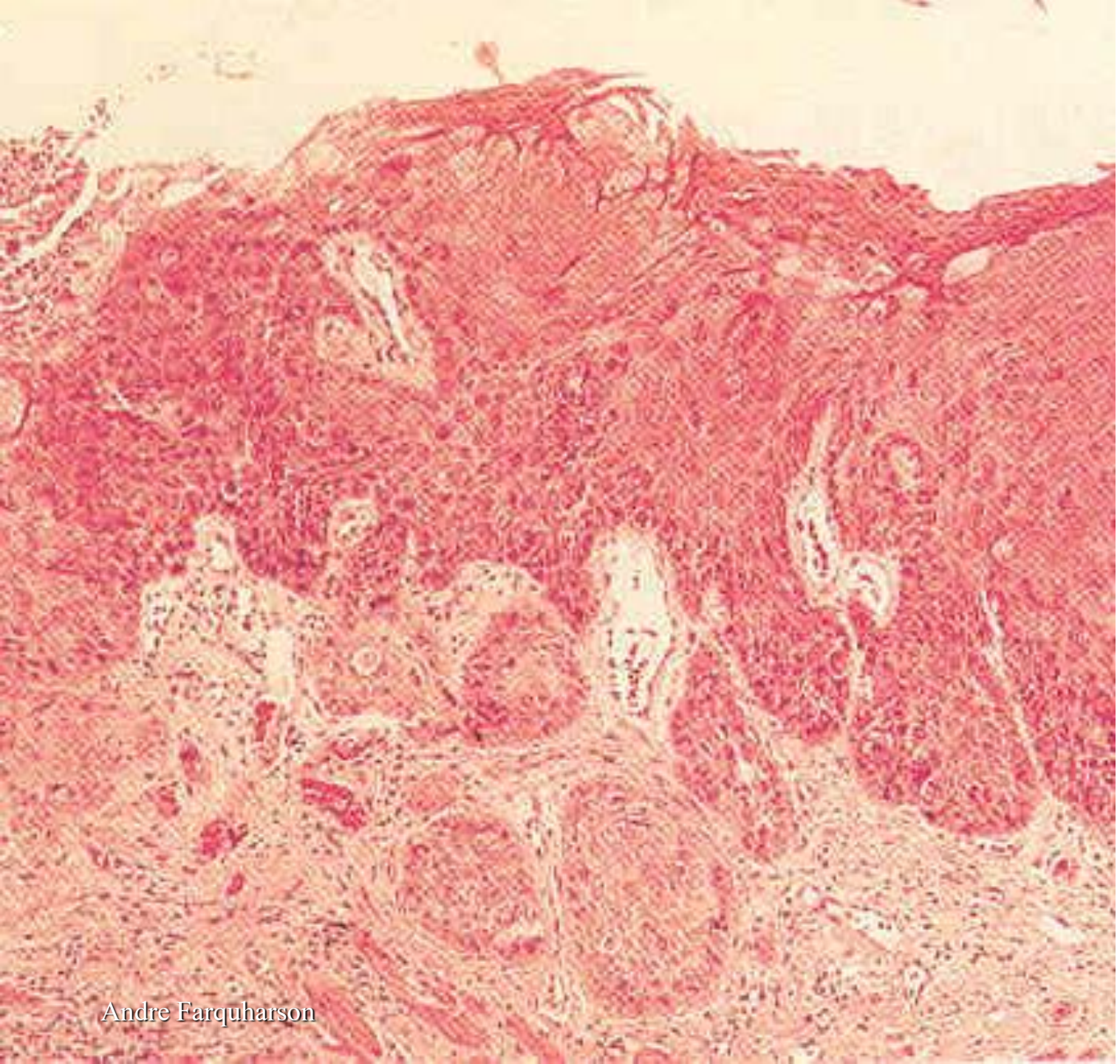
Gender: male

Chief Complaint: I have a large swelling on my tongue.

History of Present Illness: “It has been there for over 1 year and he think it is getting bigger.”

Tongue Lesion

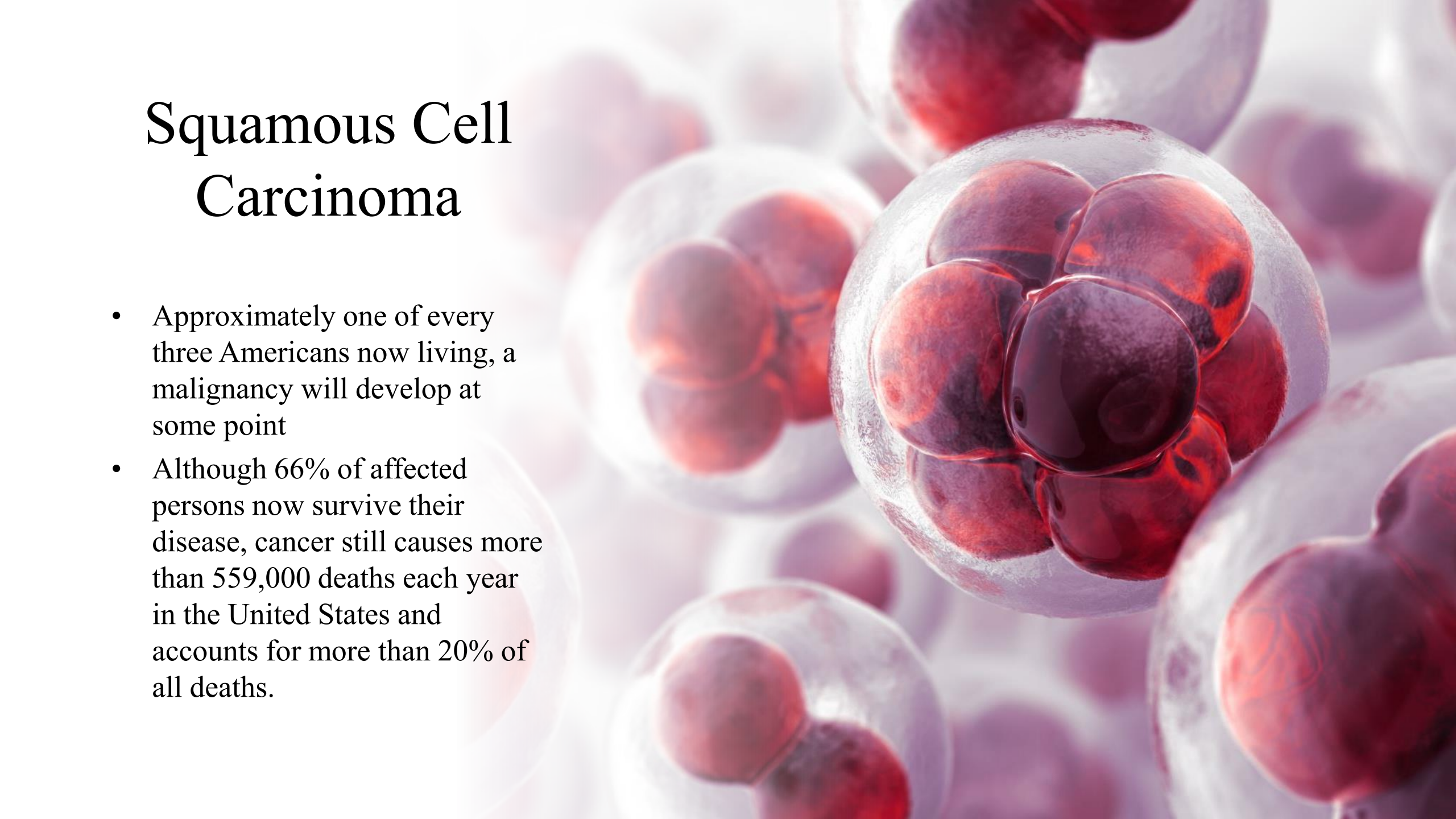
Andre Farquharson



Histology

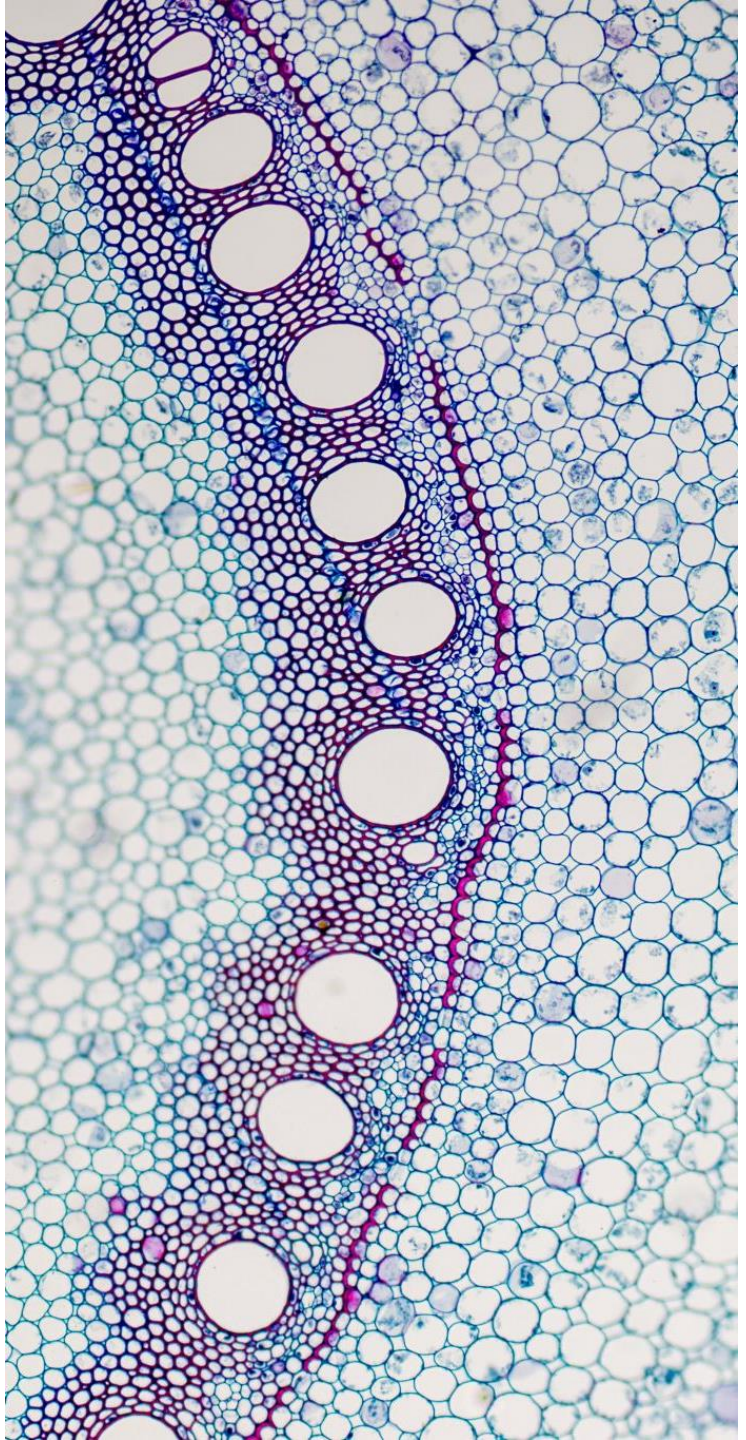
Squamous Cell Carcinoma

- Approximately one of every three Americans now living, a malignancy will develop at some point
- Although 66% of affected persons now survive their disease, cancer still causes more than 559,000 deaths each year in the United States and accounts for more than 20% of all deaths.



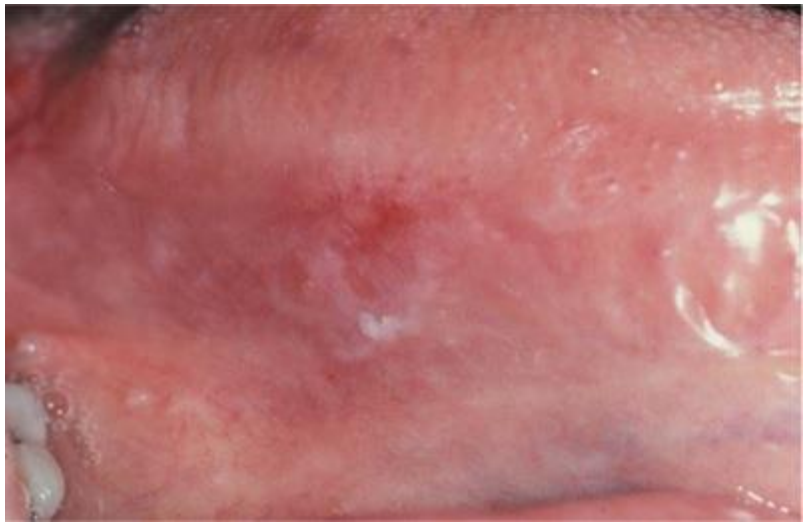
Histology

- Invasion is represented by irregular extension of lesional epithelium through the basement membrane and into subepithelial connective tissue.
- Individual squamous cells and sheets or islands of cells are seen to be thriving as independent entities within the connective tissues, without attachment to the surface epithelium. Invading cells extend deep into underlying submucosa tissue and/or bone, destroying structures as they progress.



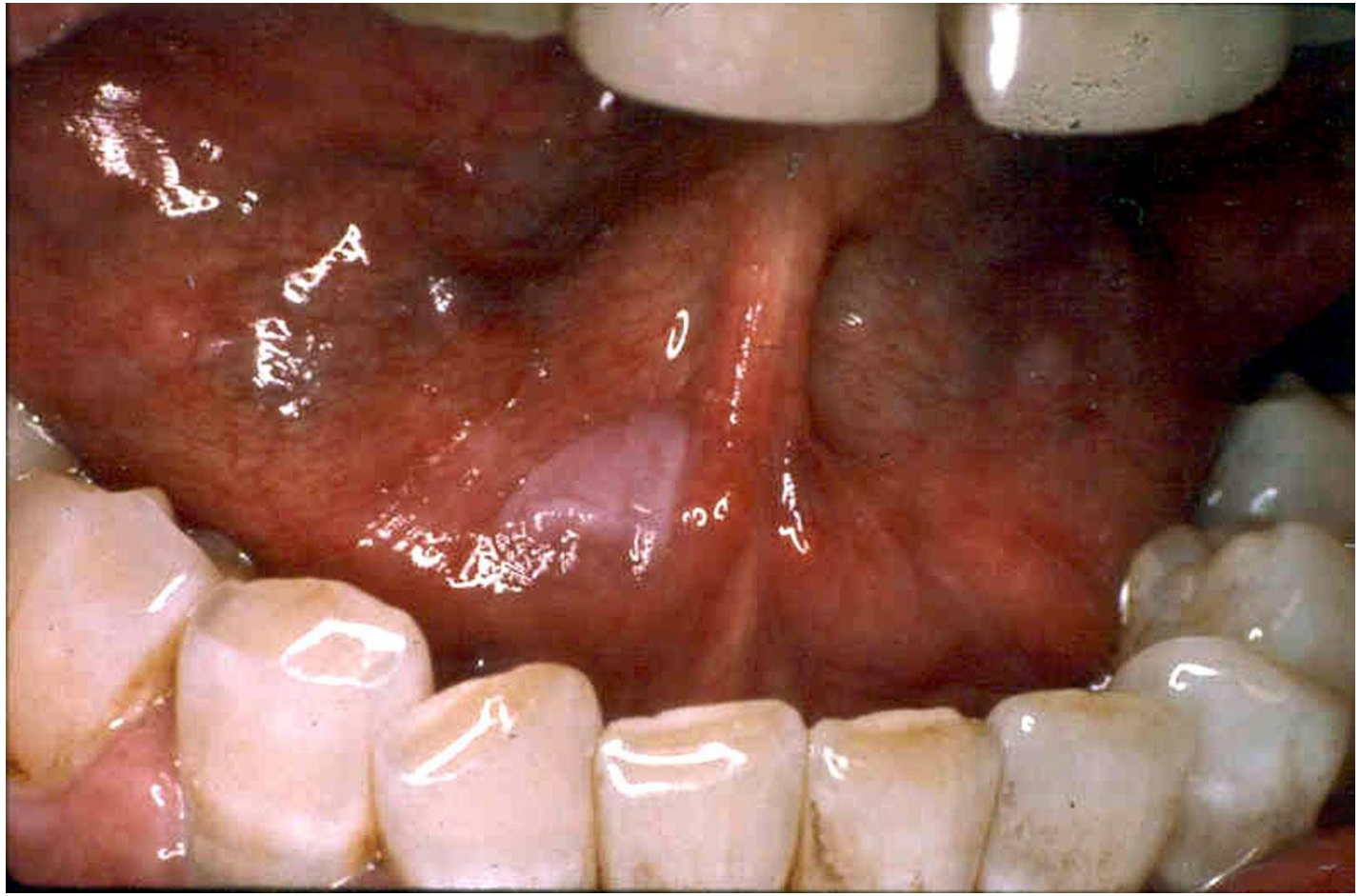
Leukoplakia



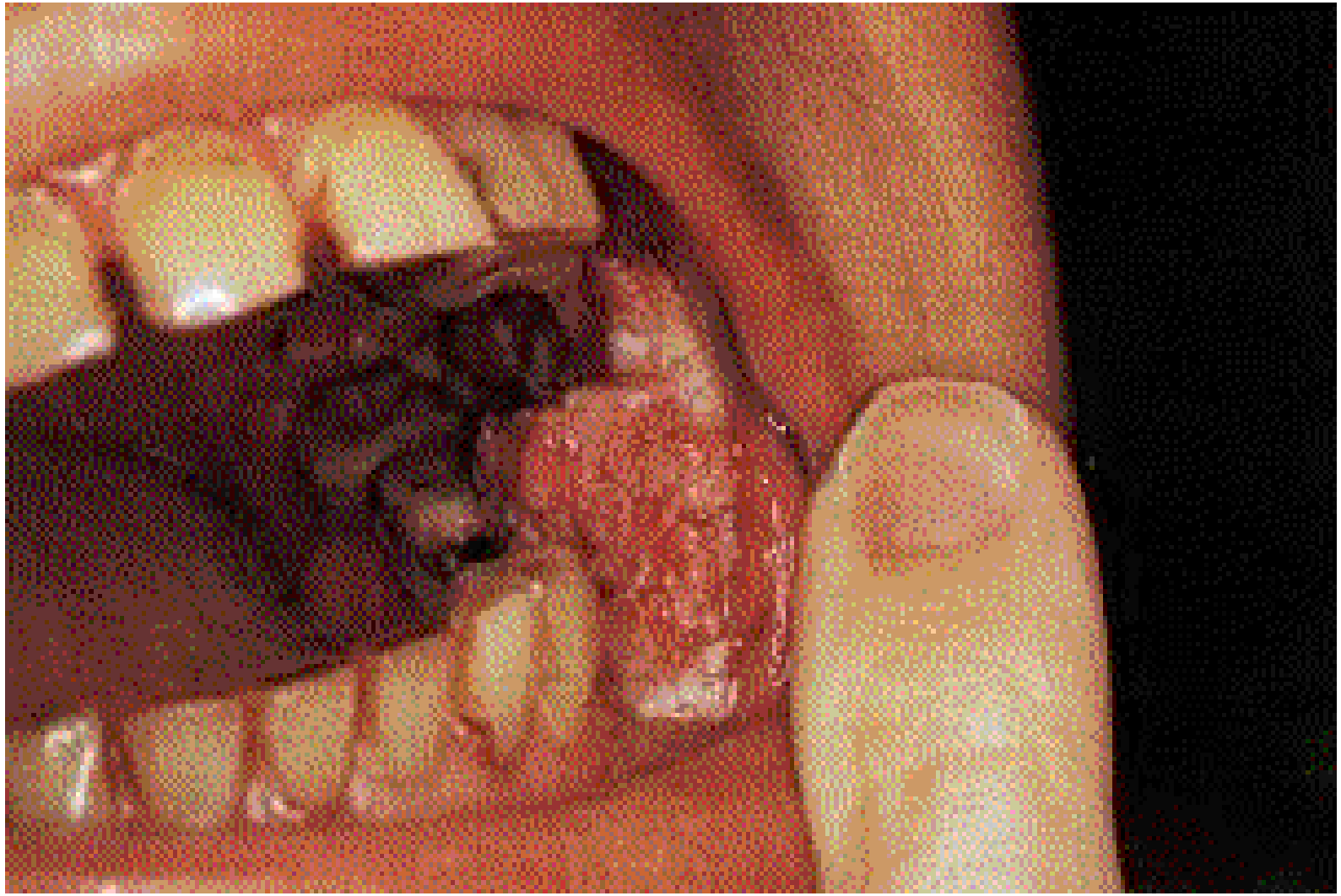


Oral Cancer

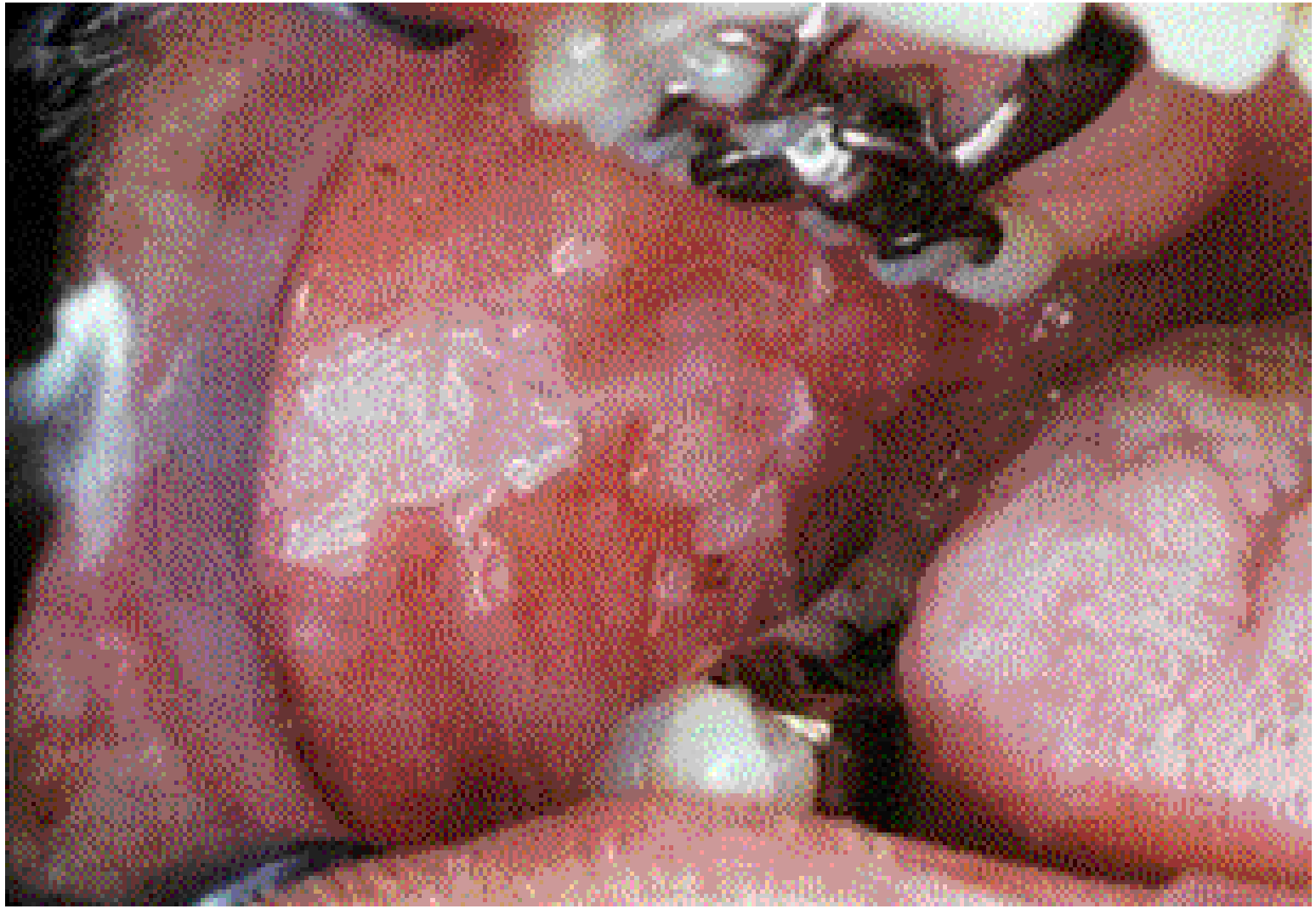
Oral Cancer



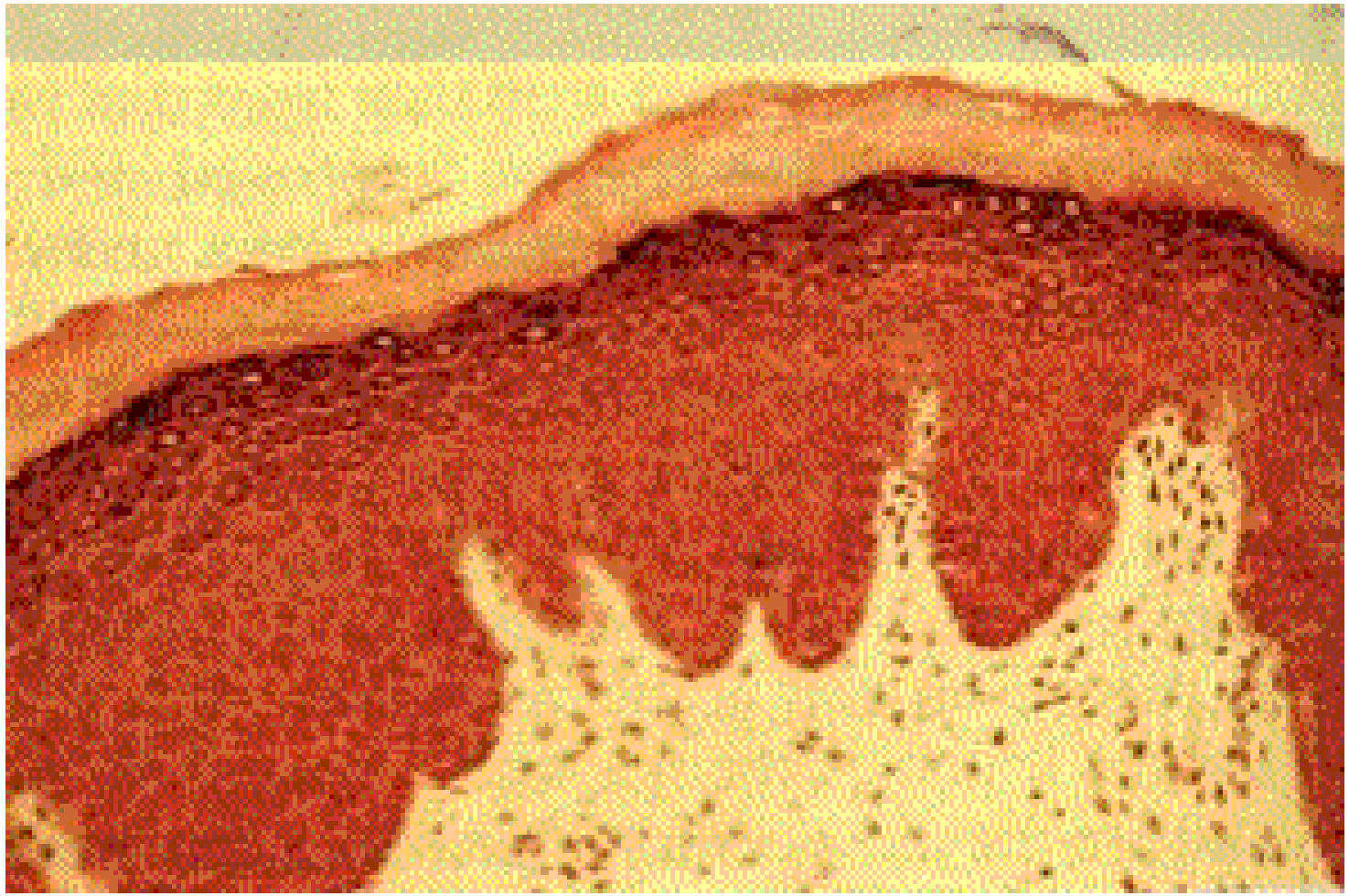
Fibrotic Lesion



Leukoplakia

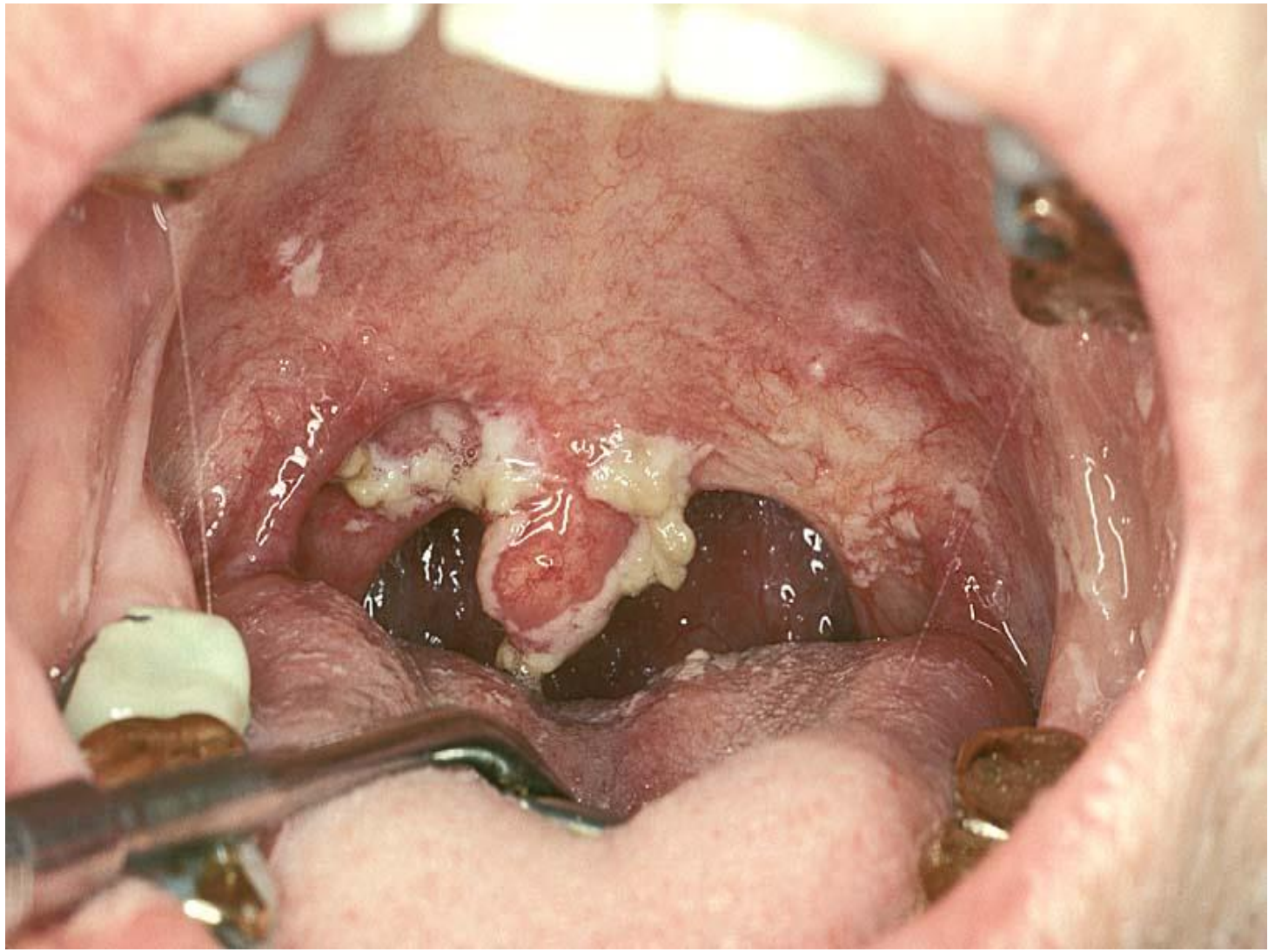


Histology



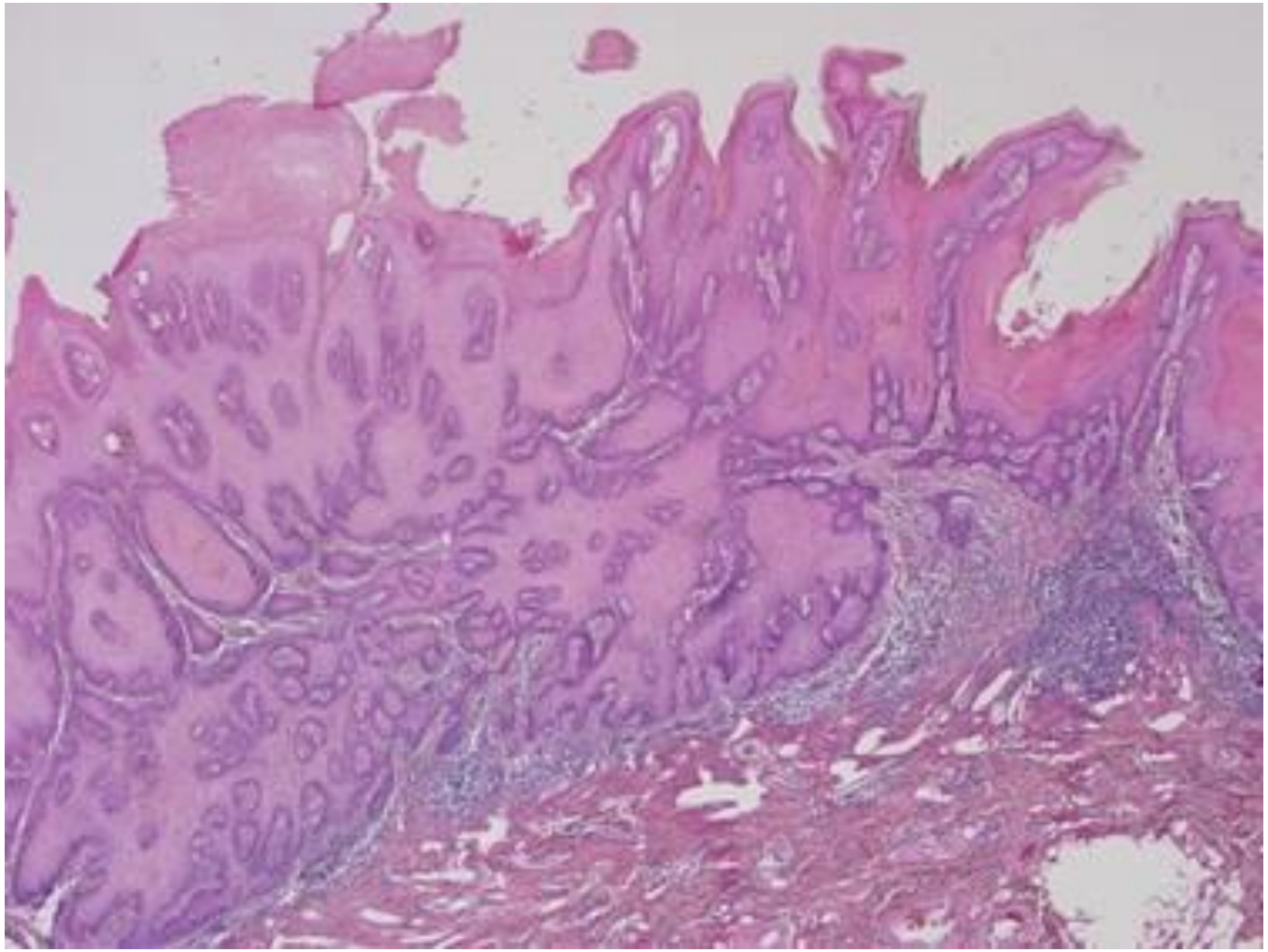
Ulceration in the palate

Verrucous Carcinoma



Andre Farquharson

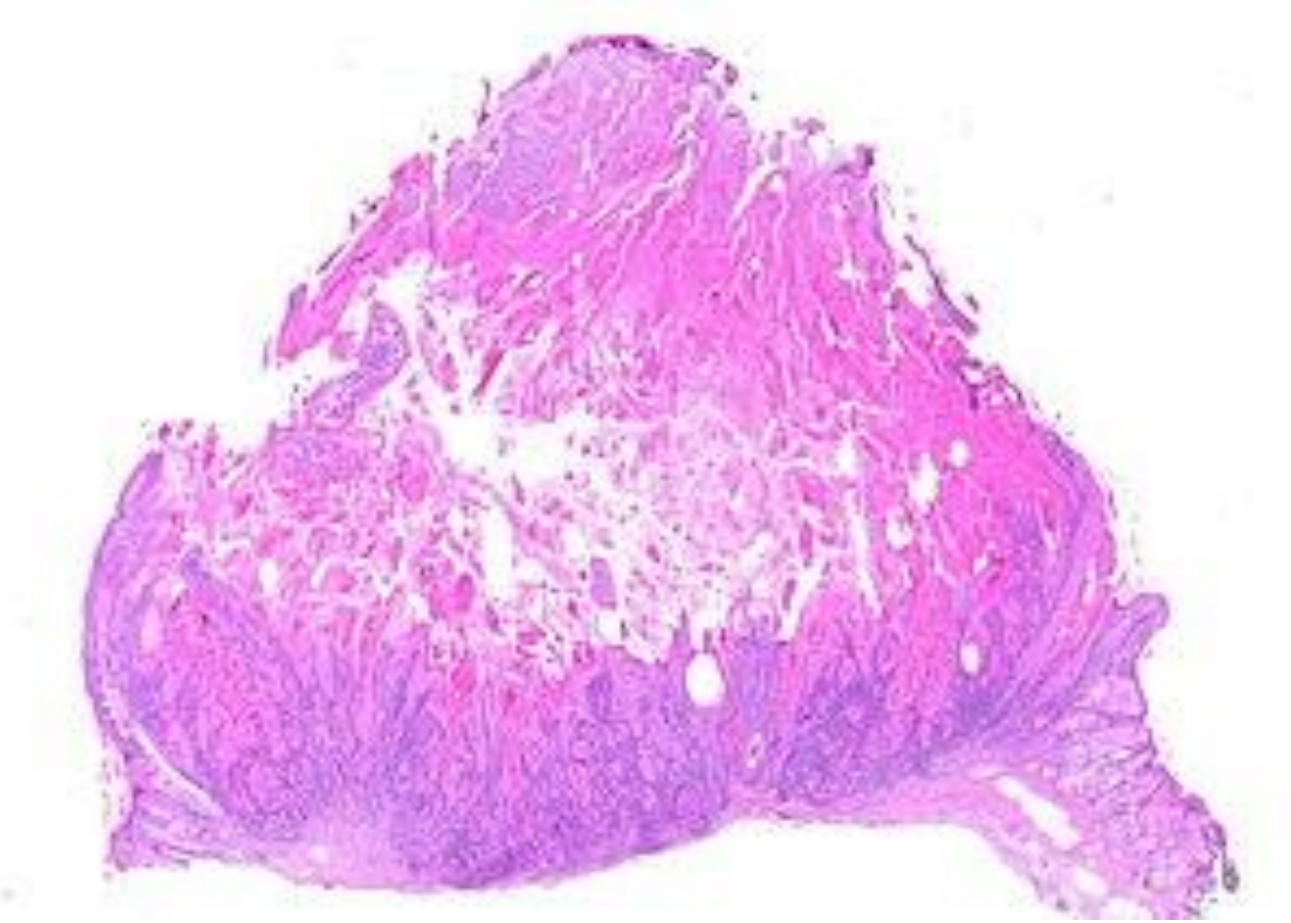
Histology



Andre Farquharson

Nodule on The Lip

Histology



Squamous Cell Carcinoma

The common location for oral squamous cell carcinoma is the tongue, retromolar pad, buccal mucosa, gingiva and lip.

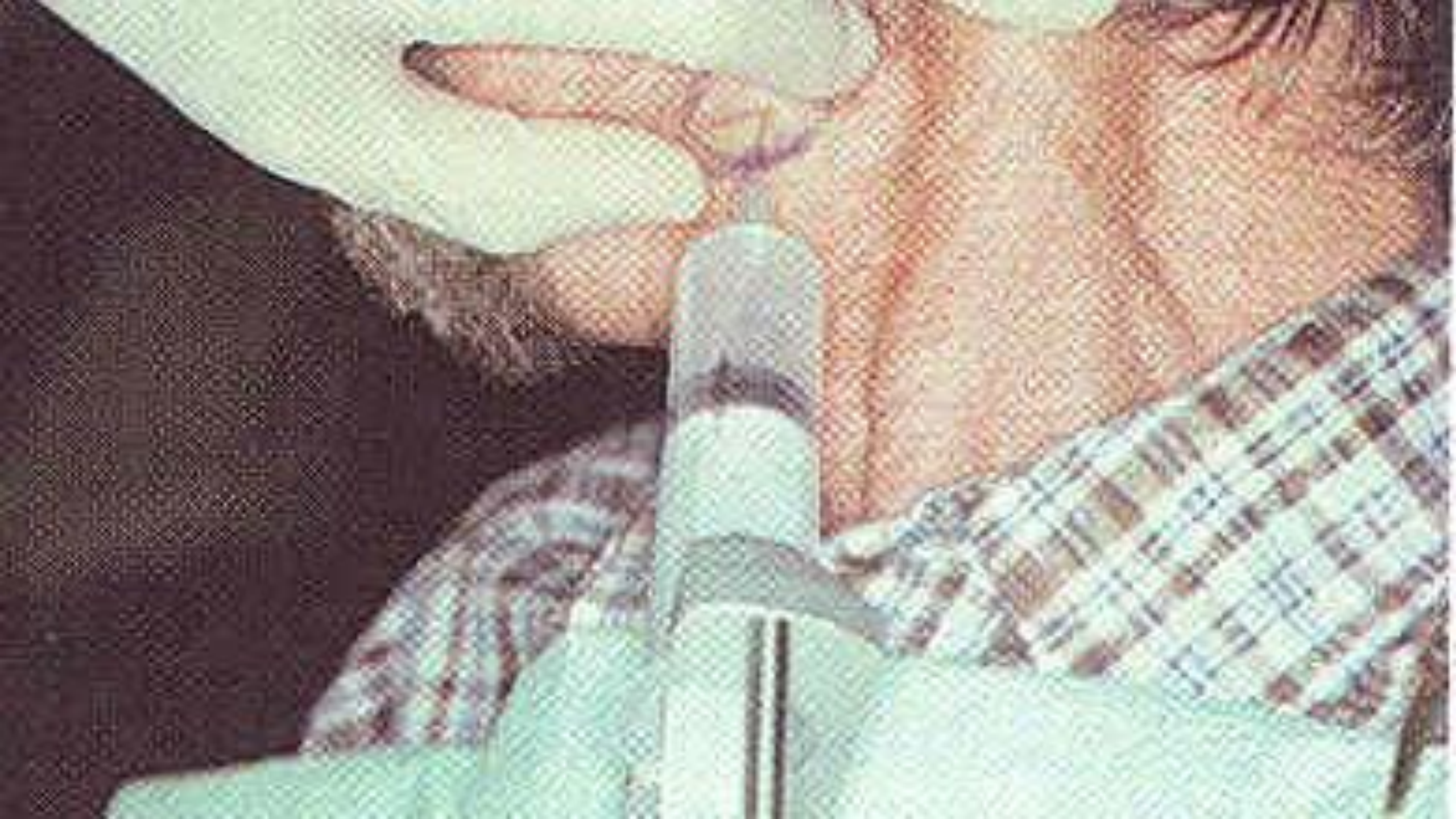
Squamous cell carcinoma arises from dysplastic surface epithelium and is characterized histopathologically by invasive islands and cords of malignant cells.squamous epithelial cells.

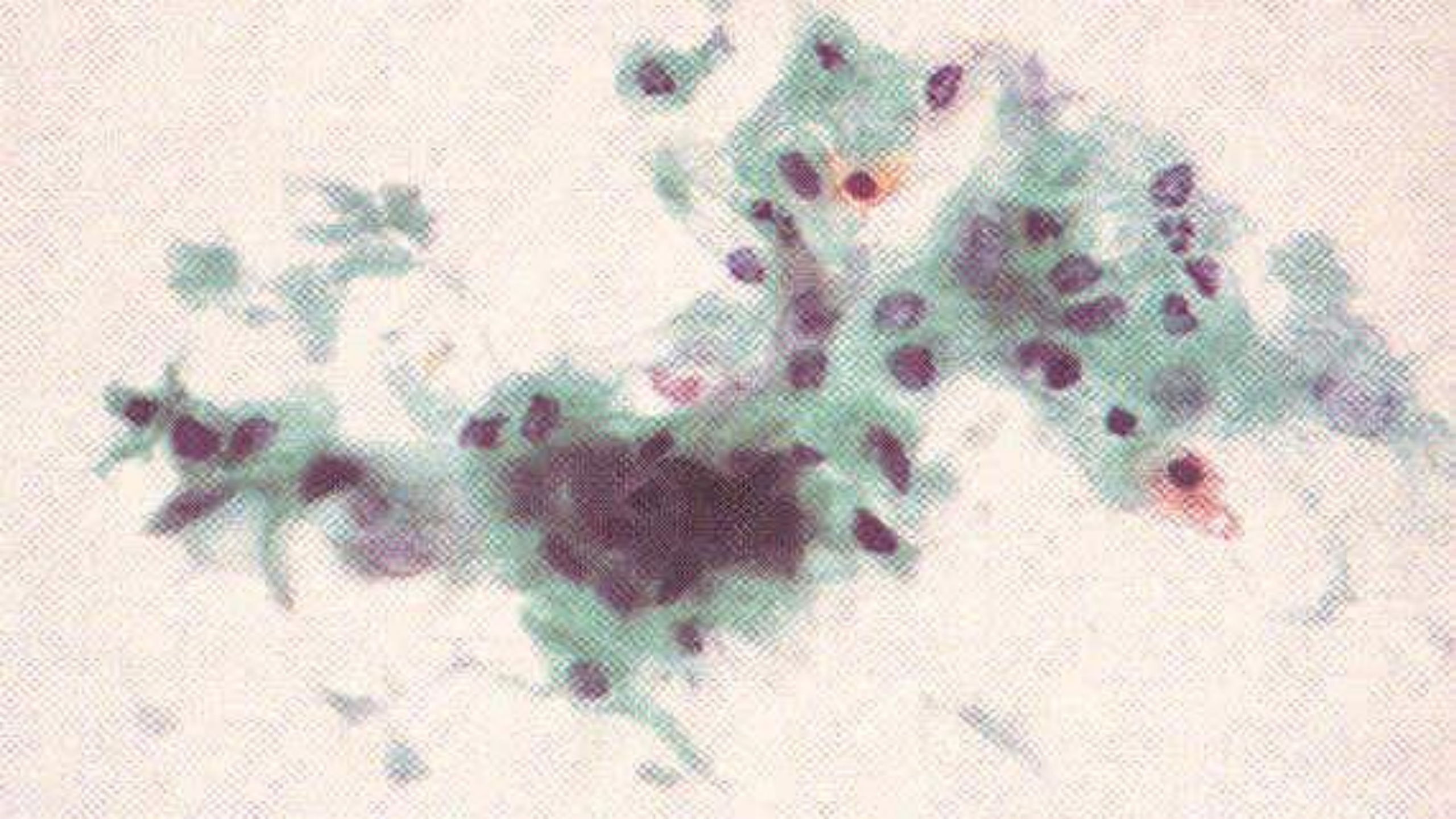
In order to have a definitive diagnosis

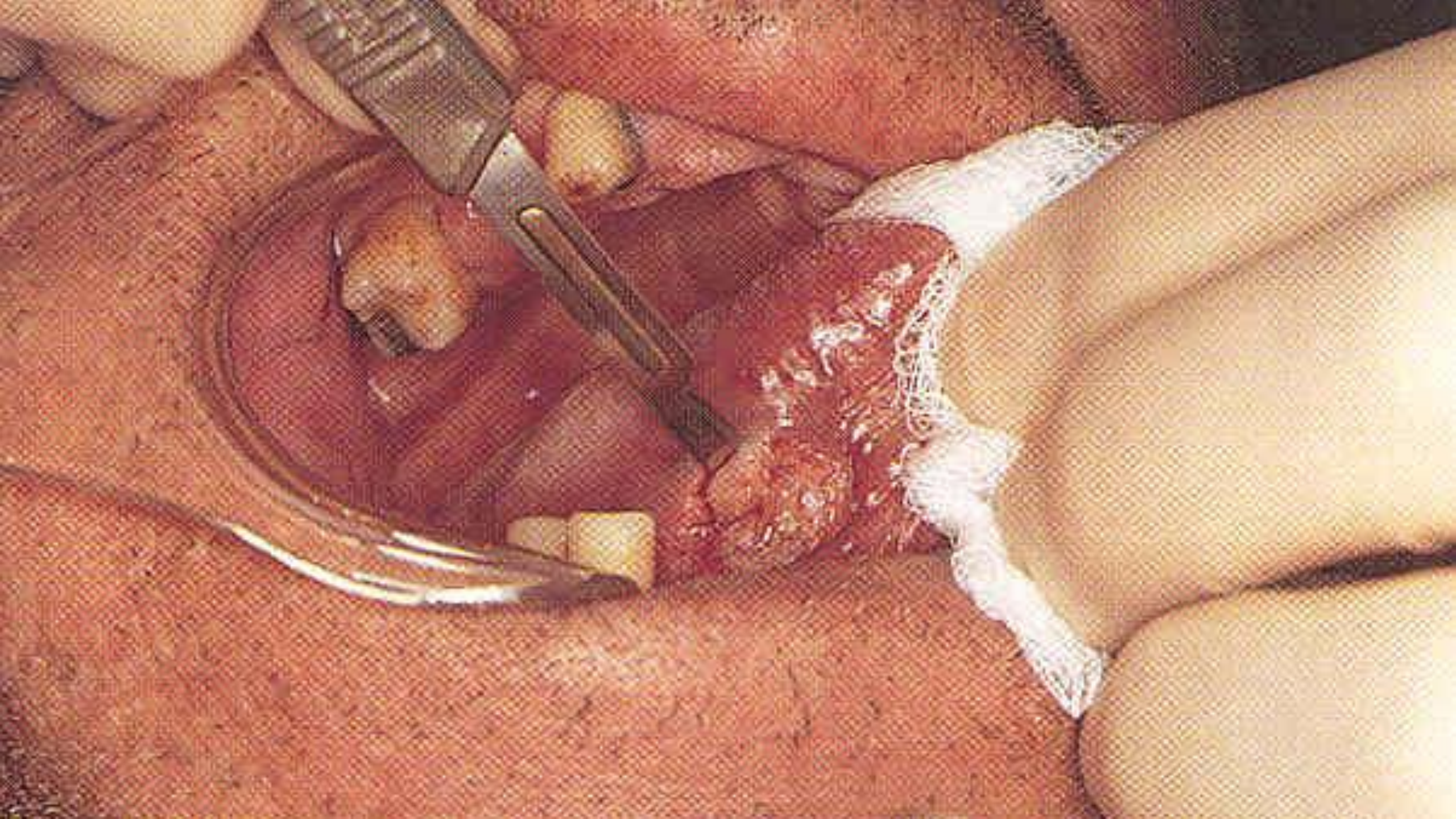
- Biopsy

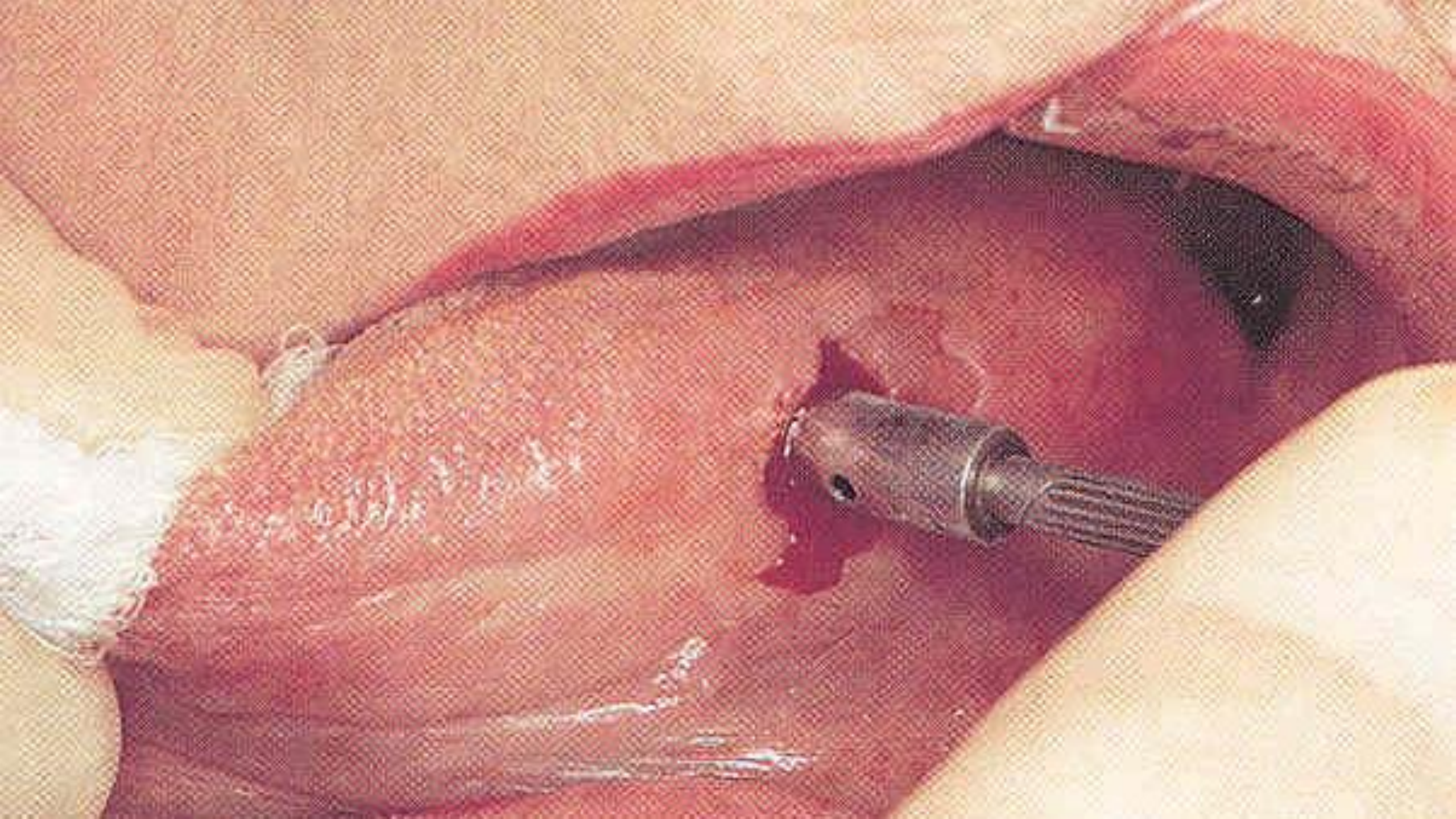
Biopsy Types

- Cytology
- Fine Aspiration
- Incisional/Excisional
- Punch



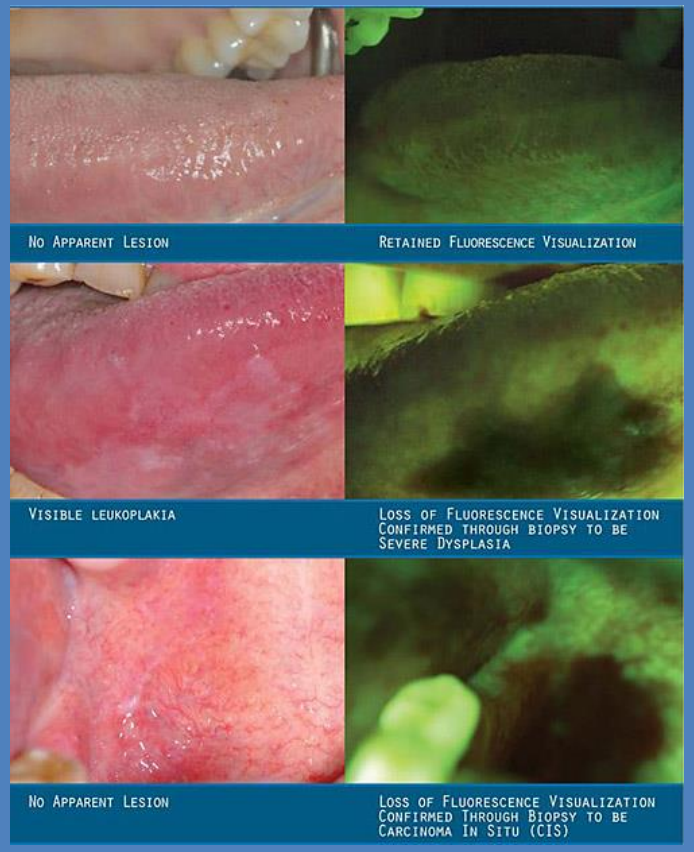






Detection Tools

Velscope


No Apparent Lesion
Retained Fluorescence Visualization
Visible leukoplakia
Loss of Fluorescence Visualization Confirmed through biopsy to be Severe Dysplasia
No Apparent Lesion
Loss of Fluorescence Visualization Confirmed Through Biopsy to be Carcinoma In Situ (CIS)

ViziLite


ViziLite
The disposable light for illumination of abnormal oral tissues
Zila
A Product of Zila, Inc.
ViziLite

Oral ID

Effects of Squamous Cell Carcinoma

Diagnosed…

Now What?

Communication Collaboration

Social Worker

- Social and Financial issues

Nutritionist

- Dietician support

Oncologist

- Chemotherapy

Dentist/Hygienist

- Pre and post treatment
- Extraction and Fabrication of prosthetics

Radiation Therapy

- Planning procedure

ENT

- Surgical treatment

Symptom Management

Xerostomia

- Hydration and good oral hygiene

Mucositis

- Warm salt water, Lidocaine rinse, Benadryl, Steriods

Infection

- Antibiotics, Antifungal, Antiviral medication

Malnutrition

- Water, Fiber meals, High calorie, Light exercise, Rest

Oral Care Recommendations

Items	Instructions
Toothbrushes	Soft, extra-soft, or ultrasoft brushes Minimize pressure on gingival tissues to provide gentle cleaning.
Toothpaste	May use favorite fluoride toothpaste, toothpaste for sensitive teeth may be helpful: avoid mint flavors or tooth whitening ingredients may cause burning, can bush with baking soda.
Rinses	Warm baking soda/salt water QID Warm salt water QID Non-alcohol-based mouthwashes
Dry mouth	Artificial saliva products, moisturizing liquids & sprays; encourage fluids, sugar-free mints/gum with xylitol
Fluoride gels, Paste & Rinses	Stannous fluoride, Sodium fluoride, remineralizing agents, fluoride varnishes

Resources for CancerCare

- CancerCare
  - 800-813-HOPE: www.cancercare.org
- National Cancer Institute's Cancer Information Service
  - 800-4-CANCER: www.cancer.gov
- American Cancer Society
  - 800-ACS-2345: www.cancer.org
- American Head & neck Society
  - 310-437-2345: www.headandneckcancer.org
- American Society of Clinical Oncology
  - 888-651-3038: www.plwc.org
- Association of Clinicians for the Underserved
  - 703-442-5318: www.clinicians.org
- Association of Oncology Social Work
  - 215-599-6093: wwwaosw.org
- Intercultural Cancer Council
  - 877-2436642: www.iccnetwork.org
- Multinational Association of Supportive Care in Cancer
  - 504-296-2095: www.mascc.org
- National Center for Frontier Communities
  - 505-820-6732; www.frontierus.org
- Oral Cancer Foundation
  - 949 278-4362: www.oralcancerfoundation.org
- Support for People with Oral and HEAD and Neck Cancer
  - 800-377-0928: www.spohnc.org
- The Wellness Community
  - 888-793-WELL: www.thewellnesscommunity.org
- The YU Brynner Head and Neck Cancer Foundation, Inc.
  - 888-792-6624: www.yubrynnerfoundation.org

Thank you