METASTATIC CERVICAL LYMPHADENOPATHY

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Out line

- Introduction
- Anatomy / H&N Lymphatics
- AETIOLOGICAL / RISK FACTOR
- PATHOLOGY
- -Probable Primary Tumour Site
- -Theories of Tumour Spread
- - Histology
- - Staging
- DIFFERENTIAL DIAGNOSIS
- CLINICAL FEATURES

Case 1

- F/30 years
- Student
- Itsekiri
- Christain
- Ekewan rd B/C

- Referred from gastroenterology unit internal medicine managing for peptic ulcer disease with upper GI bleeding on account of

- Nasal obstruction X 10/12
- Abnormal noise in right ear X 2/12

- Nasal obstruction was persistent, snoring, assoc. Mouth breathing, post-nasal drip, hyposmia, halitosis.

- Had one episode of epixstasis 3 years ago, also had one episode of haematemesis about the same time. EBL ~250mls.

- Tinnitus, tapping, hearing impairment, and aural fullness. No vertigo, otalgia, or otorrhoea

- Positive hx of significant weight loss, no anorexia or bone pains. No yellowness of the eyes.

- Positive hx of deep seated retro-orbital pain, no diplopia,no neck swelling, no preceeding fever

- No hx of exposure to irradiation, chemicals, wood dust, no hx of alcohol or tobacco intake, no preference for smoked fish.

- On Tabs Rabeprazole, Diclofenac, Nicotinic acid
- Not a known HTN, Asthma, DM, or Peptic ulcer disease patient.
- No previous history of surgeries or blood transfusion.
- 3rd of 6 children in a monogamous setting

O/E

- Conscious, alert, afebrile, anicteric, not pale
- Nose- no abnormality detected
- Neck- multiple posterior triangle lymph nodes, mobile, 3X4cm, submandibular nodes 3X4 cm mobile

- Oropharynx- nodular mass in nasopharynx, post nasal drip, absent gag reflex, granular posterior pharyngeal wall, torus palatine

- Ears- TM intact and dull bilat

CVS-

- PR-96bpm
- BP- 110/70 mmHg

Chest

- RR- 20cpm
- BS- vesicular

Abd- NAD

- Ass – Nasopharyngeal Tumor

Plan

E/U/A Nose and Nasopharynx

Tabs ciprofloxacin 500mg bd X 1/52

E/U/Cr—Urea- 14mg/dl

Na+- 135 mmol/l

K+- 4.5 mmol/l

HCO3- 20 mmol/l

Cl- 107 mmol/l

Serum Cr- 1.0 mg/dl

FBC-

- Hb-10.2
- HCT- 31%
- WBC- 6,200
- Plt- 292,000
- Diff-N-28%

  L- 50%

  O- 22%

Clotting profile- PT-17.3 secs

Ctrl-13.0s

Normal range- 11-15s

PTTK- 33.0 s

Ctrl- 29.0s

Normal range-20-40s

INR- 1.44

- RVS- positive
- Biopsy- inflammatory polyp
- Repeat biopsy- Nasopharyngeal carcinoma (squamous cell)

- Referred to National hospital for radiotherapy
- Requested her slides from UBTH for immunohistochemistry.
- Diag- Diffuse large B-cell lymphoma
- Currently receiving Chemotherapy.

Case 2

- M/30 years
- Farmer
- Bini
- Christain
- B/C

PC:

- Swelling in right side of mouth X 2/12
- Right neck swelling X 1/52

- Swelling in rt side of the mouth assoc pain on swallowing, no preceeding trauma, increasing in size, no bleeding, no halitosis.

- No dysphagia, no hoarseness, fever or cough.

- Noticed swelling in right side of neck a week prior to presentation, increasing in size assoc pain, no hx of trauma.
- Had uvulectomy on acct of symptoms X1/12 by traditional practitioner.
- Referred from a private hosp.
- No co-morbidities

- PMHx- nil
- Married with a child in a monogamous setting

O/E

- afebrile, anicteric, not pale

- Oropharynx- markedly enlarged right tonsil, mild hyperaemia,ulcer over the ant. Portion, anterior pillar matted with anterior portion of tonsil. Granular PPW

- Nose- NAD
- Ears-NAD
- Neck-swelling in posterior triangle, 4X6cm, firm, smooth, not tender, no diff warmth, not attatched.

Plan;

- For biopsy tonsillectomy
- CT scan of neck –no money
- Tabs PCM 1g tds X 1/52
- Tabs Ciprofloxacin 500mg bd X 1/52

- Warm saline gargle
- FBC- normal
- FNAC- benign smear
- Biopsy- neuroendocrine carcinoma diff- diffuse lymphoma
- Referred to Eko hospital for radiotherapy.

Introduction

- One of the most prognostic factors in head and neck cancer is the presence or absence, level and size of metastatic neck disease.

- A neck node is a pointer to primary disease often in the head and neck which should be sought.

Epidemiology

- Incidence is more in males than females 4:1
- Peak age M-65 yrs, F-55yrs.

Anatomy

- Anterior and posterior triangles
- Posterior- occipital and subclavian
- Anterior- submental, submandibular, muscular,carotid

Lymphatics.

- Waldeyer’s internal ring

- Waldeyer’s external ring- aka superficial cervical nodes
- around the skull base- occipital post-auricular, parotid or preauricular, buccal.
- In the neck- superficial cervical, submandibular and submental.

- Deep cervical nodes
- Junctional nodes- upper, middle and lower cervical nodal groups situated along the int. Jugular vein
- The spinal accessory nodes, the nuchal nodes, the visceral nodes in the midline of the neck and nodes in the upper mediastinum

B: Lymph Node Levels

1. Level I. Submental & Submandibular
   - lips, oral cavity, skin of face

2. Level II. Upper jugular
   - oro- nasopharynx, paranasal sinuses, parotid

3. Level III. Middle jugular
   - oropharynx, tonsils, tongue

4. Level IV. Lower jugular
   - hypopharynx, larynx, thyroids, cervical oesophagus

5. Level V. Posterior Triangle
   - Va: nasopharynx, hypopharynx,
   - Vb: lung, GIT , UT

6. Level VI. Anterior Triangle
   - larynx, thyroid gland

7. Level VII. Upper Anterior Mediastinum

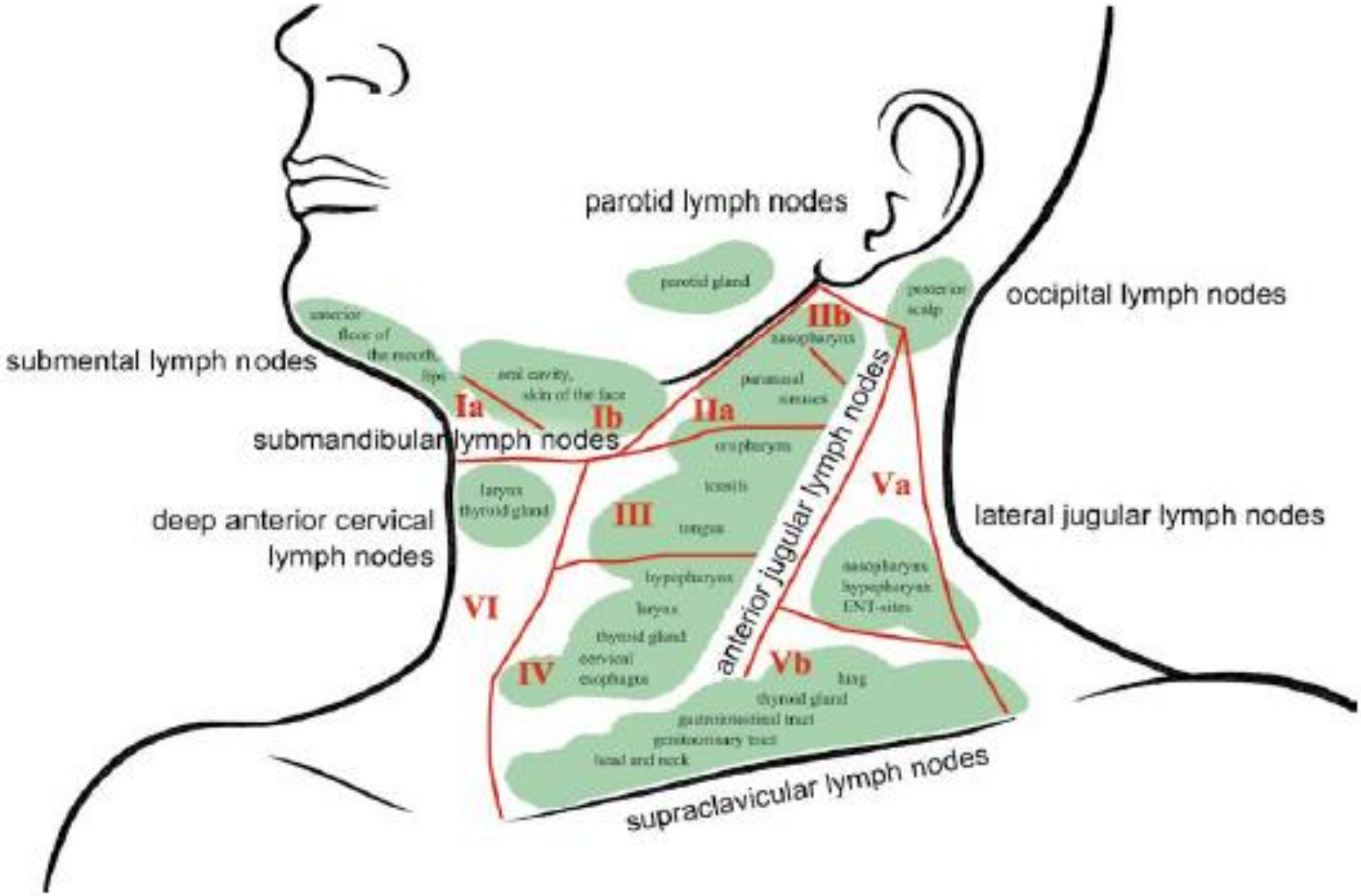


Fig. 9.8.1 Surgical levels of the neck and anatomical location of lymph nodes. The probable origins of metastasis to the neck are indicated for the main groups of lymph nodes

AETIOLOGIC / RISK FACTORS

- Cigarette smoking
- Alcohol
- Hydrocarbons – methyl cholanthrine
  - benzopyrene
  - benzanthracene
- Asbestoes
- Nikel & Chromate Dust

AETIOLOGIC / RISK FACTORS

- Dietary factors (Chinese –NPC)
- Vitamin A Deficiency (epithelial metaplasia)
- Vitamin C Deficiency
- Paterson – Brown Syndrome
  (postcricoid carcinoma)
- Wood dust
- Irradiation
- Human papilloma virus (6, 11, 16)
- Genetic / familial

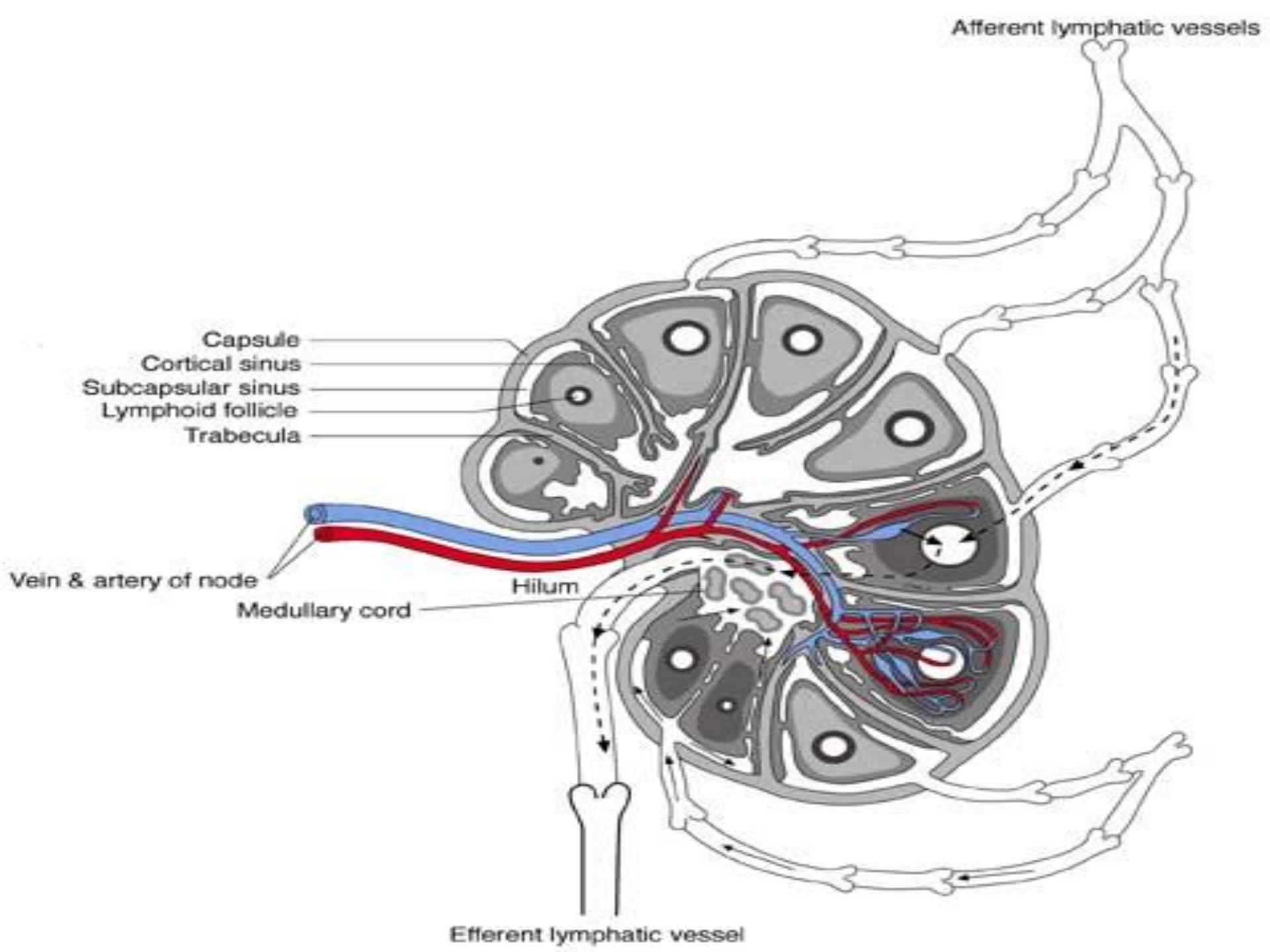
PATHOLOGY

- **PROBABLE PRIMARY TUMOUR SITES**
  - **--- Nasopharynx 60%**
  - **--- Oropharynx –Tonsil } 20%**
  - **-Base of the tongue}**
  - **--- Pyriform fossa 10%**
  - **--- Other Head and neck tumours**
  - **--- Bronchus**
  - **--- Lungs**
  - **--- Breast**
  - **--- Stomach**
  - **--- Prostate**
  - **--- Elsewhere**
  - **--- Occult Primaries 3---5%**

PATHOLOGY

- **THEORY OF TUMOUR SPREAD**
- Lymphaticovenous communication

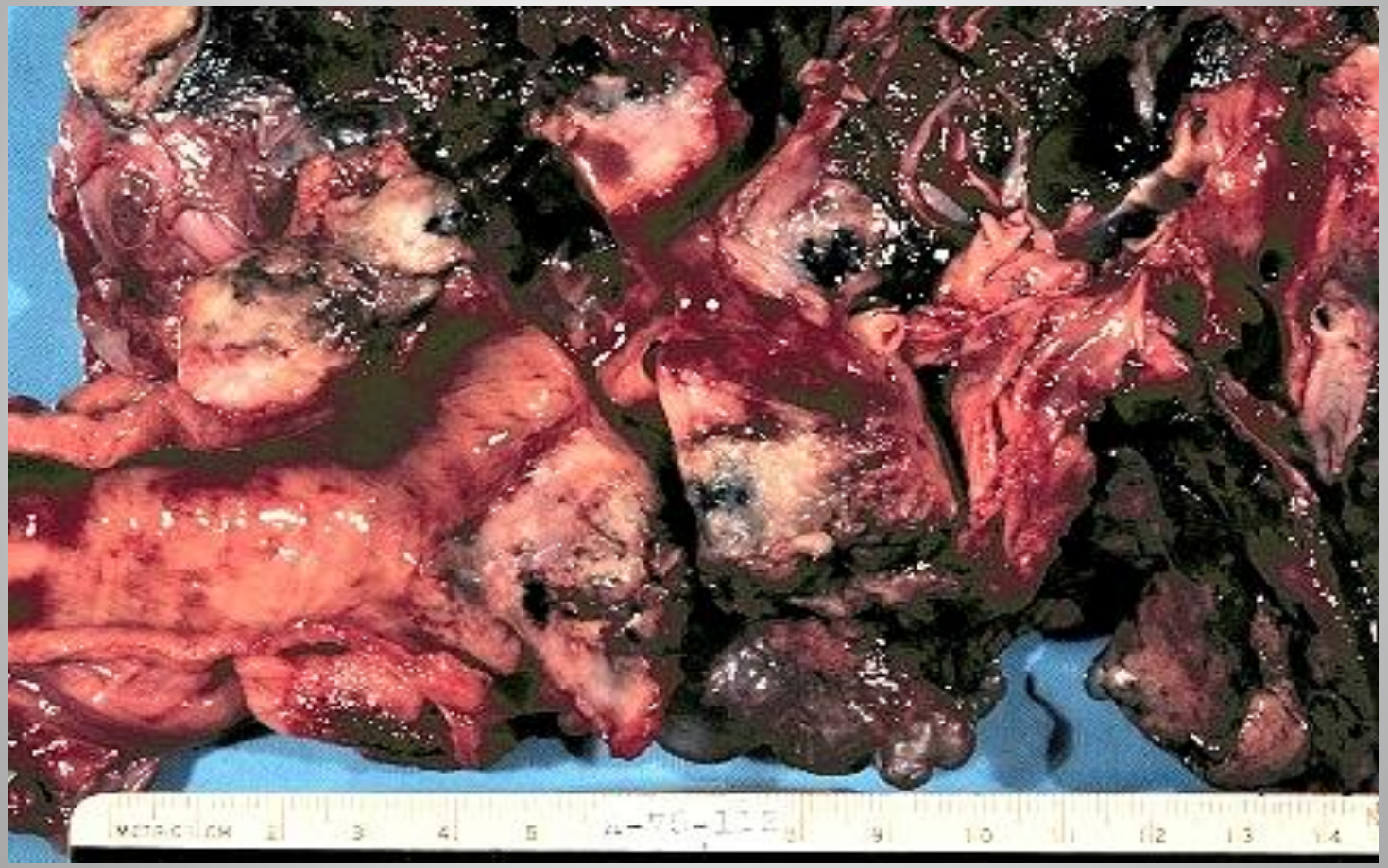
  (Passive Transport within Lymph)
- Venous –Lymphatic Communication
- Inter-Lymphatic Route
- Direct Penetration
- Surgery
- Chemotherapy
- Radiotherapy


Afferent lymphatic vessels
Capsule
Cortical sinus
Subcapsular sinus
Lymphoid follicle
Trabecula
Vein & artery of node
Hilum
Medullary cord
Efferent lymphatic vessel

PATHOLOGY- histology

- Nodal necrosis
- Fat deposits (periphery)
- Suppurative nodes (irregular / ill-defined margins)
- Matted / Streaky (extracapsular spread)

Cancer infiltrated lymph nodes



PATHOLOGY- histology

- Squamous cell carcinoma 30 – 50%
- Undifferentiated / Anaplastic 25%
- Adenocarcinomas
- Others -- malignant melanoma
  -- thyroid cancer etc

UICC STAGING

- NX — Regional lymph nodes cannot be assessed
- NO — No regional lymph node metastasis
- N1 — single ipsilateral lymph node, = / <3 cm in greatest dimension
- N2 — single ipsilateral or bilateral l ymph node
  - N2A — single ipsilateral lymph node,>3 cm but <6cm
  - N2B — multiple ipsilateral lymph nodes, <6 cm
  - N2C — bilateral or contralateral lymph nodes, <6 cm
- N3 — Metastasis in a lymph node >6 cm in greatest dimension

DIFFERENTIAL DIAGNOSIS

- SQUAMOUS CELL CARCINOMA
- LYMPHOMA
- ADENOCARCINOMA
- OCCULT PRIMARY
- BRANCHOGENIC CARCINOMA
- THYROGLOSSAL DUCT CARCINOMA
- CANCER IN A PHARYNGEAL POUCH
- MALIGNANT NEUROGENIC TUMOUR

CLINICAL FEATURES

- Enlarged cervical node
- Progressivel increasing
- +/- painless

CLINICAL FEATURES

CLINICAL FEATURES

- Nasal symptoms -obstruction
  -discharge
  -epistaxis
- Otological symptoms --otorrhoea
  --otalgia
  --aural fullness
  --hearing loss
- Dysphagia
- Odynophagia
- Hoarseness
- Difficulty in breathing

CLINICAL FEATURES

- Neuro-ophthalmic symptoms
- Cough
- Hemoptysis
- Dyspepsia
- Weight loss
- Vomiting
- Urinary symptoms
- Level(s) of lymph node(s) invoved→ pointer to primary site

Levels of cervical lymph nodes

- SUBMENTAL
- SUBMANDIBULAR
- PAROTID
- UPPER CERVICAL, ABOVE HYOID BONE, ALONG THE INTERNAL JUGULAR CHAIN
- MIDDLE CERVICAL, BETWEEN HYOID BONE AND CRICOID CARTILAGE, ALONG INTERNAL JUGULAR CHAIN
- LOWER CERVICAL, BELOW CRICOID CARTILAGE, ALONG INTERNAL JUGULAR CHAIN
- POSTERIOR TRIANGLE (ALSO KNOWN AS ACCESSORY CHAIN)
- SUPRACLAVICULAR FOSSA

MANAGEMENT

of Metastatic Neck Nodes

HISTORY

- Neck swelling:
  Duration, Pain, Progression, Other Swellings

- Nasal Obstruction, Epistaxis

- Hearing Loss/Otalgia

- Odynophagia/Dysphagia

- Hoarseness

- Cough, Anorexia/Weight Loss

O/E – H & N

- Neck: site/size/consistency/mobility

- Oral Cavity/Oro-pharynx

- Nasendoscopy

- Ears

- Axilla
- Chest & Abdomen
- Genitalia

INVESTIGATIONS

A. SPECIFIC

- FNAC
- CT-Scan H&N, Chest, Abdomen, Pelvis
- MRI
- CXR, USS
- Barium studies
- Pan-endoscopy

B. NON- SPECIFIC

- FBC + ESR, EUC
- EBV- Serology
- RVS
- Mantoux

- EUA + Pan-endoscopy + biopsy

- In the event no tumour is found, blind biopsies taken from both sides of nasopharynx and tongue base, and tonsillectomy performed on the side of the node.

- Histology/Immuno-Histochemistry

- **INCISION BIOPSY???**

- **FROZEN SECTION**

TREATMENT

- MULTIMODAL :

1. Nodal Stage
2. Histology
3. Site of Primary Tumour

- Radiotherapy
- Surgery
- Chemotherapy

- RADIOTHERAPY

- N1 nodes
- Radiosensitive tumours e.g. SCCa, Lymphoma
- Adjuvant Rx
- Palliative
- 50 - 70/60 – 75 Gy, @ 2Gy/session, over 5 - 7wks

- Patient preparation

- Complications

- SURGERY

- Neck Dissection
  - Modified Radical
  - N2 & N3 Disease
  - Tumour Recurrence

- Primary Tumour Site
  - Tumour Excision: Tonsillectomy, Laryngectomy, Thyroidectomy, Parotidectomy.

- Complications

- Bleeding
- Jugular Vein Thrombosis
- Facial / Cerebral Oedema
- Chylous fistula
- Shoulder Drop
- Infection
- Hypertrophic Scar

- CHEMORX

- SCCA:

  Neo-adjuvant, Concurrent, Adjuvant:

  - Platinum-base Cytotoxic ChemoRx

- Lymphoma: R-CHOP

- Palliative

- PROGNOSIS : 30 - 50%

- FOLLOW- UP
  - At least 5 years

ADVANCES

- Investigation:

A. Positron Emission Tomography (PET) :

- FDG
- Detect Primary Tumour in 70-90% of Cases.
- Follow-up Monitoring

B. Laser-induced Fluorescence Imaging

- Therapy:

A. Intensity Modulated Radiotherapy (IMRT)

B. Local Microwave Hyperthermia : 42 – 45 oC

- LOCAL EXPERIENCE(JUL 2010 – JULY 2012*)*

  - Head & Neck Tumours = 83 cases

  - NPCa = 25%

  - SCCA= 50%

CONCLUSION

- Neck masses – High malignancy index
- Mgt is centred on thorough H & N evaluation: pan-endoscopy
- Incision Biopsy.....’’CAUTION’’

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THANKS FOR LISTENING