Non-Hodgkins Lymphoma

Presentation

- **Swollen Nodes** (longer than 6 weeks = be concerned!)
- **Hard Rubbery Nodes** (reactive nodes are softer; solid tumour spread is hard as a rock)
- Constitutional symptoms:
  - Anorexia + weight loss
  - Malaise
  - Lethargy
  - Fever
  - Nightsweats
  - Nausea
  - Vomiting
  - pruritis
  - Shortness of Breath
  - Bone pain
  - Abdominal Discomfort
  - Chest pain
  - Cough
  - Headache of raised ICP
  - Focal neuro symptoms

Ask how much weight was lost and how quickly: Indolent lymphoma will not be aggressively wasting

RISK FACTORS:
- Being white
- Being male
- Over 50 y.o.
- Having HIV
- Occupational

Epidemiology

NHL accounts for 5% of new cancers in men and 4% in women. The lifetime risk of NHL is 2.08%. The incidence is increasing by 3% per year (increased 80% since 1973.)

Symptoms pointing to specific sites of involvement

History

- SMOKING
- Radio- or chemotherapy
- Previous malignancy
- EBV in the past
- HIV status
- Recent infections
- Family history of cancer
- Chronic exposure to...
  - Pesticides
  - Herbicides
  - Radioactives
  - Cytotoxics
  - Solvents
  - Wood preservatives
  - Petroleum products
  - Use of phenytoin
  (causes a pseudolymphoma)

Examination

- Temperature (may be up)
- Pulse rate (may be tachy)
- Weight (obviously wasted?)
- Pallor
- Purpura
- Petechiae
- Ecchymoses
- Palpate the lump(s) – is it actually a node?
- Palpate for organomegaly in the abdomen
- Look for bone pain
- Look for joint pain
- Look for focal neuro signs

HIGH FEVER, TACHYCARDIA, RESPIRATORY DISTRESS? = advanced high grade lymphoma

CRISIS!! A malignant emergency:

Hyperuricaemia:
- very common with aggressive lymphoma
- acute gout
- uremia (eg, nausea, vomiting, lethargy, oliguria).
- Renal failure (eg. dehydration, electrolyte imbalance)

Differential Diagnoses

- CANCER: primary or secondary
- INFECTION: esp. CMV, EBV, HIV
- IMMUNE: rheumatoid, sarcoid,
- ENDOCRINE eg. goitre
- RANDOM CYST of some kind
- VASCULAR eg. aneurysm

TRY TO ANTICIPATE AND PREVENT:
- ALLOPURINOL prophylaxis
- Hydrate adequately
- Alkalinise urine with bicarb or acetazolamide

IT HAPPENED ANYWAY?
- REHYDRATE unless oliguric
- FURSEMIDE if oliguric
- Not responding to diuretic?
  ➔ START HEMODIALYSIS. Uremia kills.
## Tests and Investigations: aim is to stage and grade disease

| FBC | look for **cytopenias** and **reversed CD4 / CD8 ratio** |
| ESR | best marker of disease progression; use as baseline and monitor treatment response |
| Blood film | may show unusual lymphocyte morphology |
| LFTs | elevated ALK, PHOS, and LDH: use to monitor disease load |

### Step 1 is to obtain a histological confirmation.  
= *biopsy the node!*

Fine needle aspiration is not good enough, won’t let you see the architecture of the lymph node.

PLUS!! You get a chance to phenotype the lymphocytes, thus arriving at a genetic picture of the abnormalities, and thus a definitive classification.

### Step 2 is to stage the spread:

- **CT of chest, abdo, pelvis**  
  Mainly looking for lymphadenopathy

- **Bone marrow aspirate**  
  Mainly looking for bone marrow infiltration

### Management: depends on STAGE, not histology

#### SHORT TERM: early stage doesn’t need anything immediately.

Late stage needs relief of symptoms:

- **Radiotherapy** to obstructing nodes eg. mediastinal (SVC obstruction)
- **Radiotherapy** to bony involvement
- **Diuretics** if hyperuricemic
- **Replace missing electrolytes**
- **Remove excess electrolytes**

#### LONG TERM: must remove as much of the disease as possible.

**Indolent lymphomas** are less curable.

**Aggressive lymphomas** are more curable.

**Hodgkins lymphoma** is the most curable of all.

**THUS:**

- Stage 1 = radiation alone can do it, but offer chemo anyway (improves survival)
- Stage 2 = radiation if possible; + chemo (abbreviated CHOP)
- Stage 3, 4 = no real chance of cure, so use CHOP
  (CHOP = cyclophosphamide, doxorubicin, vincristine, and prednisone)

**SUPPORT YOUR TROOPS! Give G-CSF**

- to stimulate granulocyte proliferation, and avert neutropenic sepsis.

**WATCH FOR COMPLICATIONS OF TREATMENT:**

- **Neutropenic sepsis** and **Tumour lysis syndrome**
  - 48-72 hours after initiation of cancer treatment.
  - Hyperkalemia often is the earliest laboratory manifestation.
  - hyperphosphatemia is the next; and consequently
  - Hypocalcemia – with deposition of itchy calcium phosphate crystals
  - Hyperuricemia follows;
  - the kidneys are responsible for removing this junk, so naturally they get clogged with uric acid and calcium phosphate crystals and **acute renal failure ensues.**

**THUS:** protect the heart, dialyse if necessary, correct acidosis and rehydrate.

## Prognosis

**general prognostic groups:** the **indolent lymphomas** and the **aggressive lymphomas**

**Indolent lymphomas** have a relatively good prognosis,

- median survival time as long as 10 years,
- not usually curable in advanced stages.
- a continuous rate of relapse is usually observed in advanced stages

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