

Lymphatic/Hematopoietic System

IPM 2

Scott E. Smith M.D., Ph.D.

12-10-02

Objectives

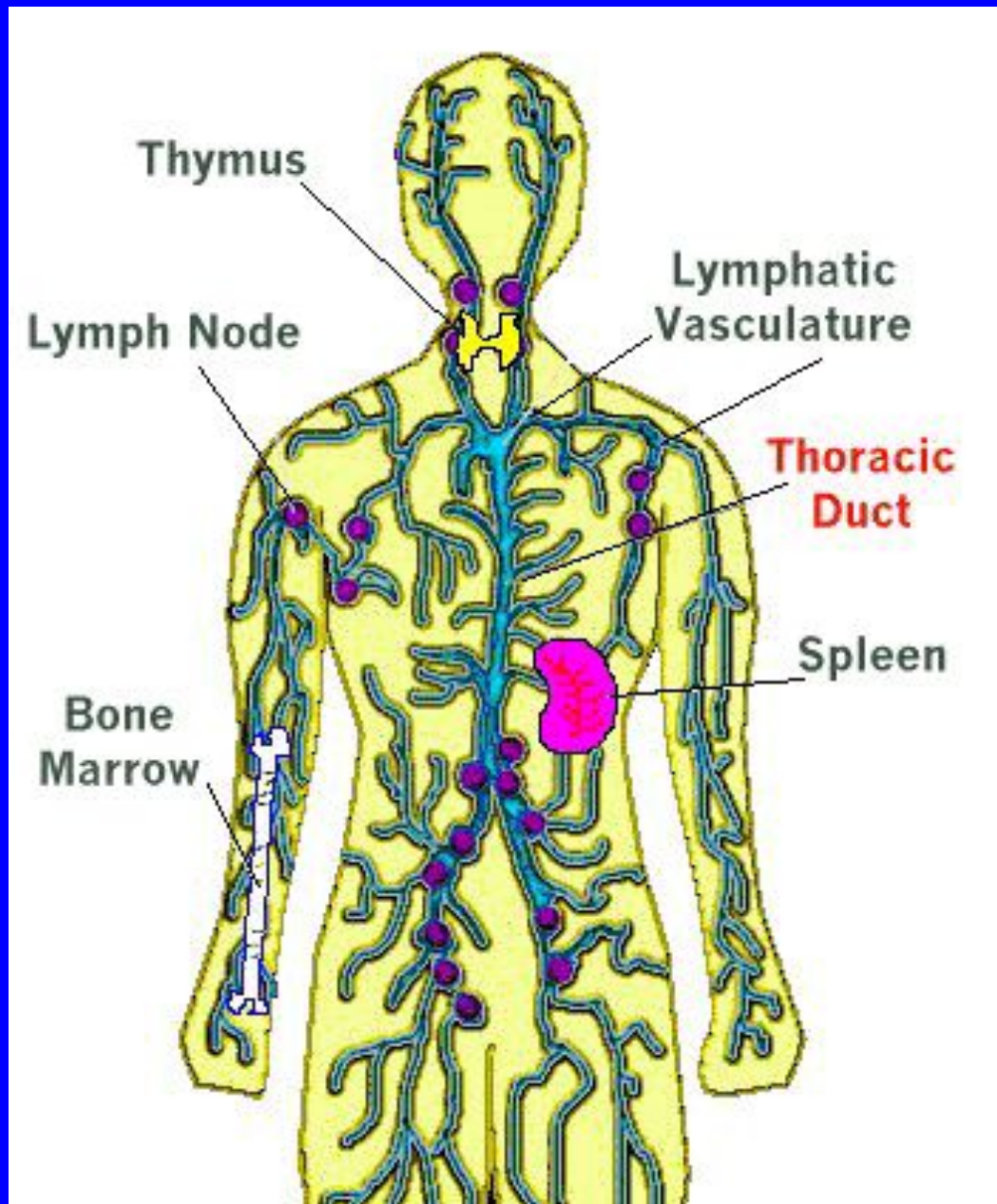
Student should be able to ...

- describe location, size, consistency, and other attributes of lymphadenopathy
- identify common clinical scenarios involving lymphadenopathy
- identify the signs and symptoms of anemia
- define the signs and symptoms of bleeding and coagulation disorders

Overview

- This is a short lecture!
- A major goal is to synthesize the lymphatic system as a whole...lymph node regions have been discussed individually by specific site...i.e., head, neck, and abdomen, but not put together for systemic illness such as lymphoma.
- We will also discuss the signs and symptoms of anemias, leukemias, bleeding disorders, and coagulation disorders

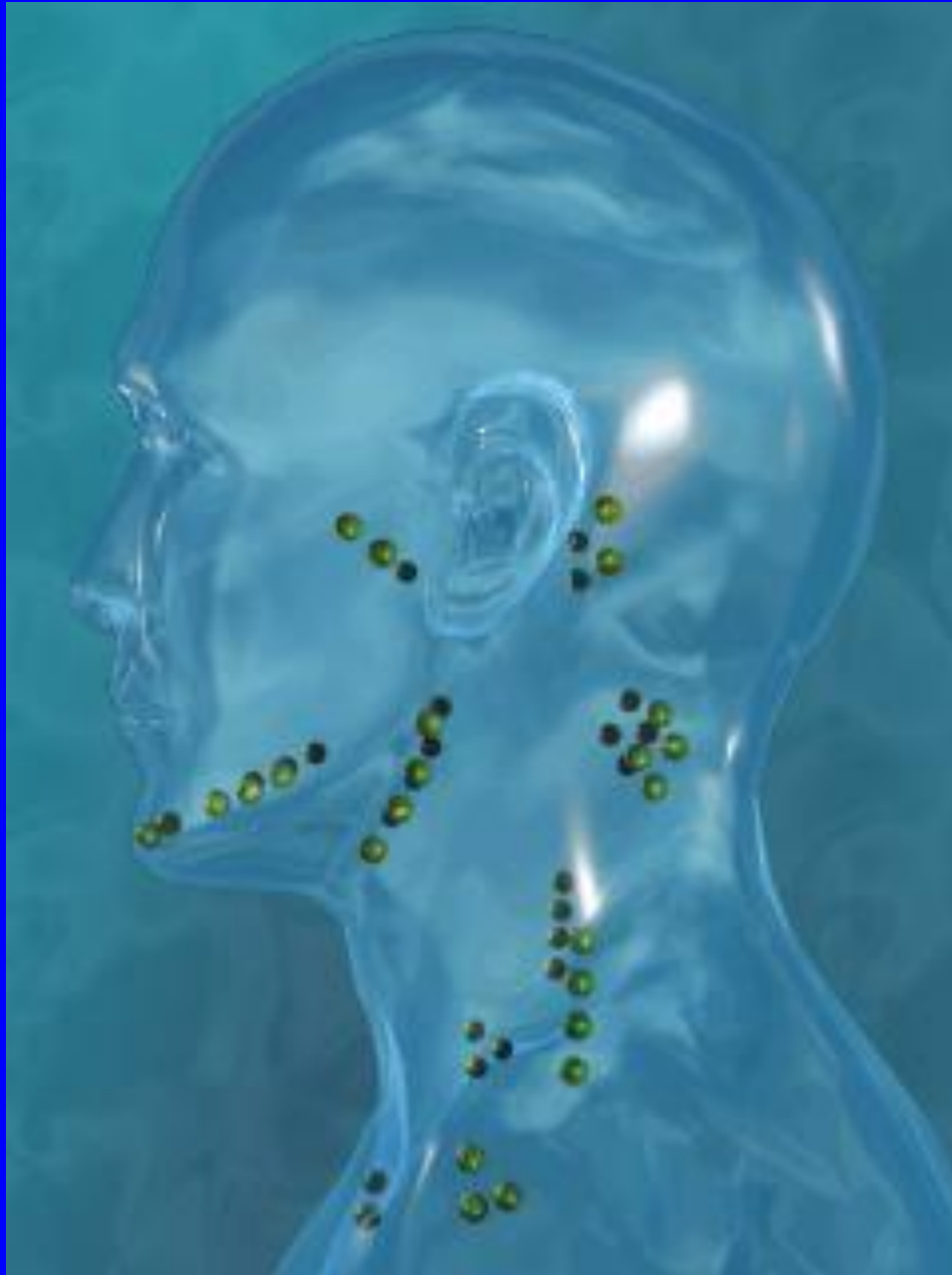
Lymphatic System



Lymph Node Examination

- Head/neck
- Axillary
- Inguinal/femoral

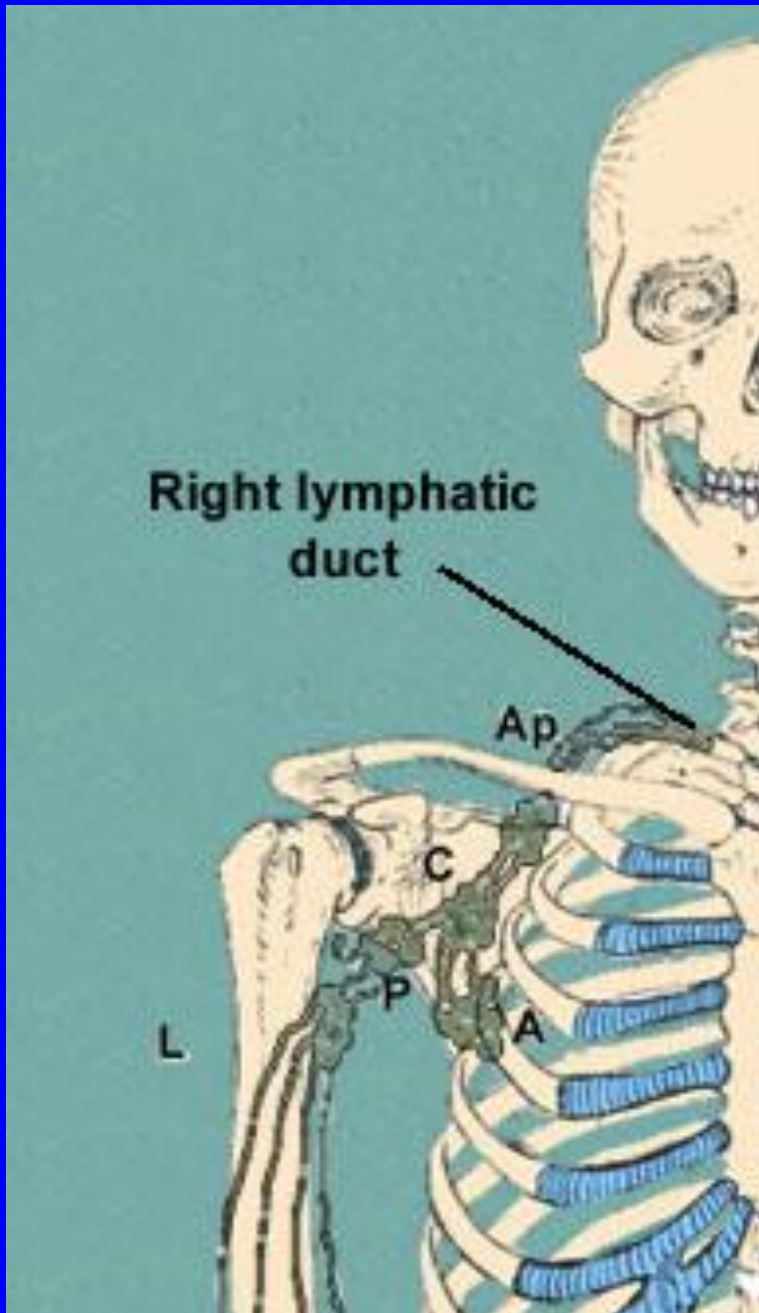
Head and Neck Nodes



- Preauricular
- Posterior auricular
- Occipital
- Tonsillar
- Submandibular
- Submental
- Superficial cervical
- Posterior cervical
- Deep cervical
- Supraclavicular

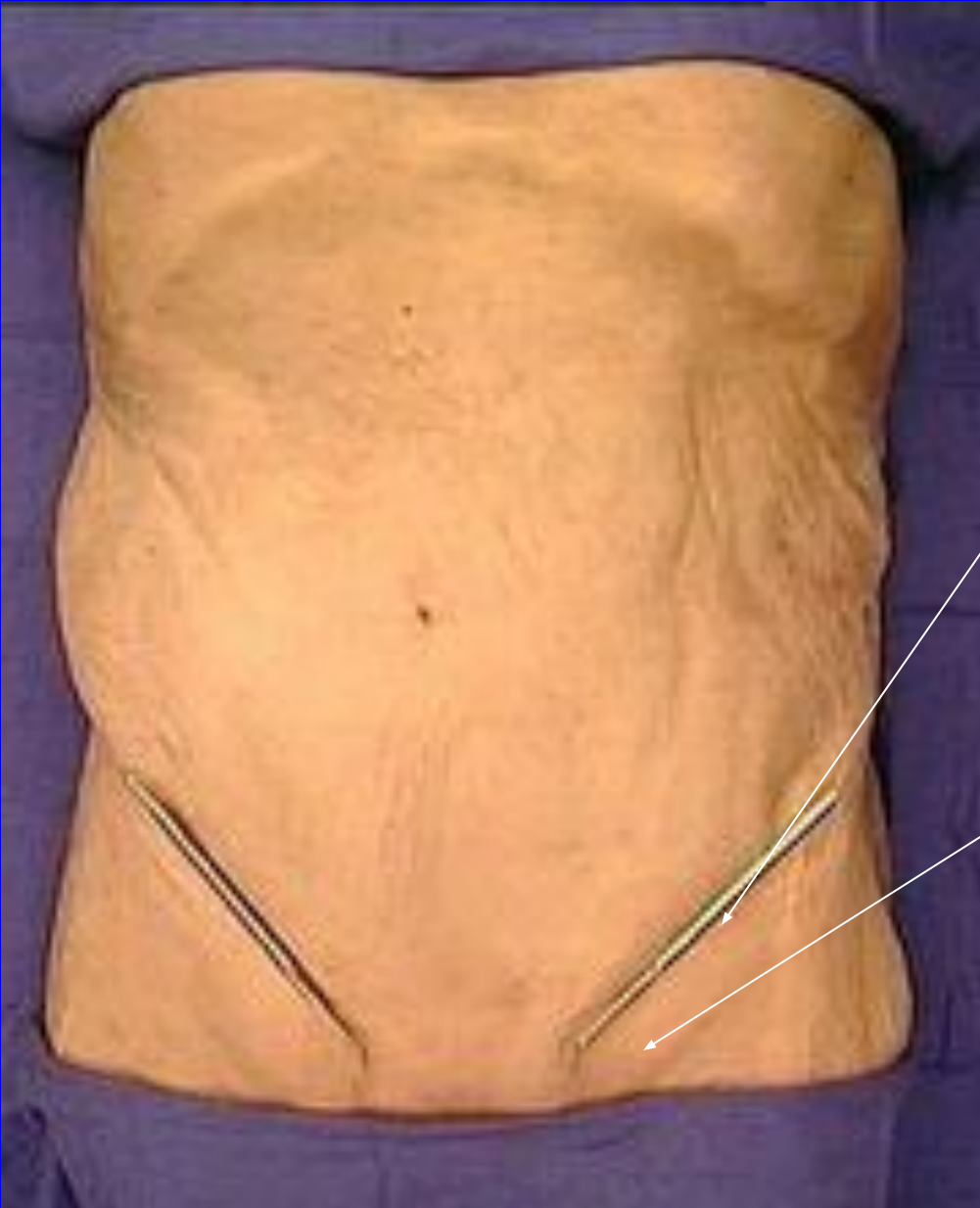
Axillary

- **A** pectoral (anterior)
- **L** lateral
- **P** posterior
- **C** central
- **Ap** apical



Inguinal/ Femoral

- Horizontal group
- Vertical group



Descriptors of Lymphadenopathy

- Location...obvious
- Mobility
- Size
- Texture
- Shape
- Tender/non-tender
- Associated erythema or warmth...signs of inflammation

Spleen

- Left upper quadrant
- Palpation most specific for detecting enlarged spleen (89-99% specificity)
- Spleen palpable to umbilicus is suggestive of hematologic pathology
- Percussion is non-sensitive (dullness in Traube's space) but can be specific in non-obese patients

Case

- 28 yo man presents with c/o fevers, night sweats and 30 pound weight loss. He develops pruritis when he showers. He also has noted some enlarged “glands” in his neck and armpits. On lymphatic exam he has the following:

Case

- painless lymphadenopathy in anterior axilla and anterior cervical as well as supraclavicular areas bilaterally.
- Lymph nodes are not tender, freely mobile and no associated inflammation. They are ovoid (grape-shaped) and measure 2 x 3 cm. There is no splenomegaly by palpation or percussion.

Differential Diagnosis

- Lymphoma
- Infection
- Cancer—metastatic
- Granulomatous disease

Anemia- Signs/Symptoms

- Dyspnea on exertion
- Palpitations
- Angina pectoris
- Intermittent claudication
- Headache
- Syncope
- anorexia
- Dizziness/vertigo
- Nausea
- Cold intolerance
- Amenorrhea
- Decrease libido/impotence

Anemia

- Blood loss
- Hemolysis/sequestration
- Deficiencies
- Decreased production

Symptoms

- Symptoms based on acuity of HgB drop
 - Acute blood loss usually creates rapid onset of symptoms
 - Slow drop in HgB may lead to fewer symptoms

Anemia of Acute Blood Loss

- Trauma or GI tract loss most common
- Menstrual/vaginal loss
- Urinary tract
- Nosebleeds leading to anemia, but not because of it!
- Tachycardia and hypotension are common findings
- History helps the most for these

Hemolysis and Sequestration

- Causes for hemolytic anemias include:
 - Autoimmune
 - Drug induced
 - Cell membrane disorders
 - Hereditary
- Splenomegaly can lead to sequestration of blood cells

Scleral Icterus

- Yellow sclera
- Can be seen in hemolysis



Deficiencies

- Iron deficiency anemia is most common worldwide and in US-spoon nails and pica
- Megaloblastic anemias caused by B12 or folate deficiencies-paresthesias and diarrhea
- Smooth tongue/glossitis

Koilonychia (spoon nails)



Smooth Tongue/Glossitis



Signs and Symptoms of Coagulation Disorders

- Bleeding
- Ecchymoses
- Petechiae
- Hemarthroses
- Hematomas

Platelets versus Coags

- Petechiae—platelets low or dysfunctional
- Ecchymoses, hematomas, hemarthroses—seen more frequently with low clotting factors or dysfunction
- Bleeding can be seen with either

Petechiae



Purpura



Hemarthrosis





Hematoma

Ecchymosis

