



July 31, 2009

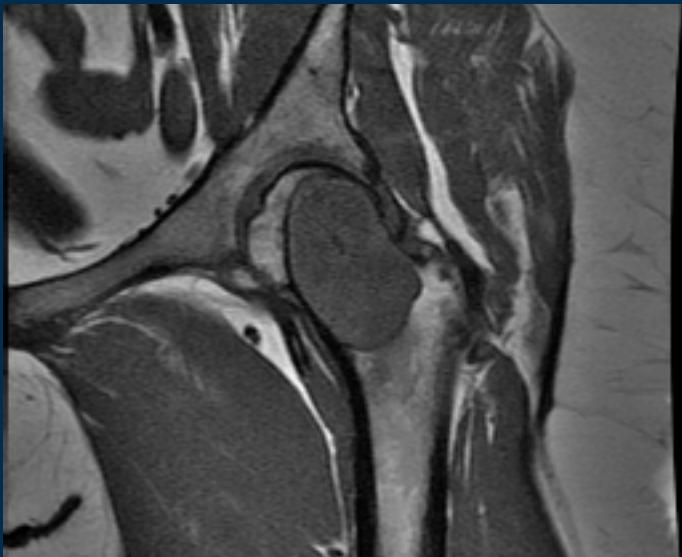
Radiology-Pathology Conference

Daniel T Ginat, M.D., M.S.

Sharlin Johnykutty, M.D.

Case 1: 23-year-old female who fell on her knee

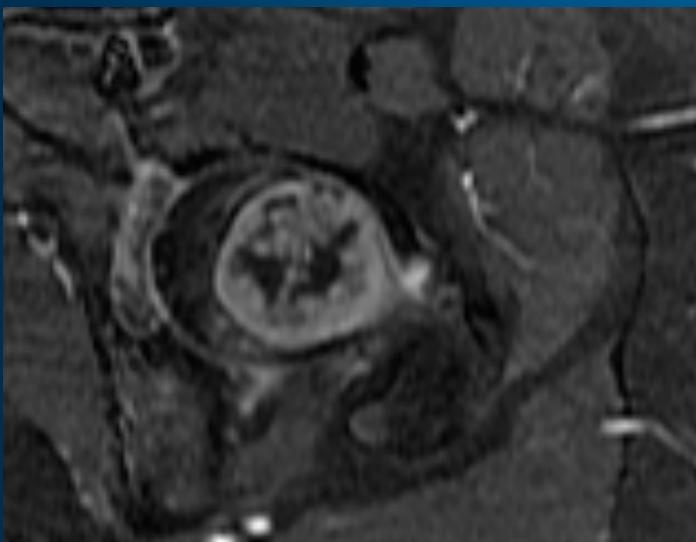




Coronal T1



Axial T1 fat saturated



Axial T2 fat saturated



Coronal T1 + Contrast

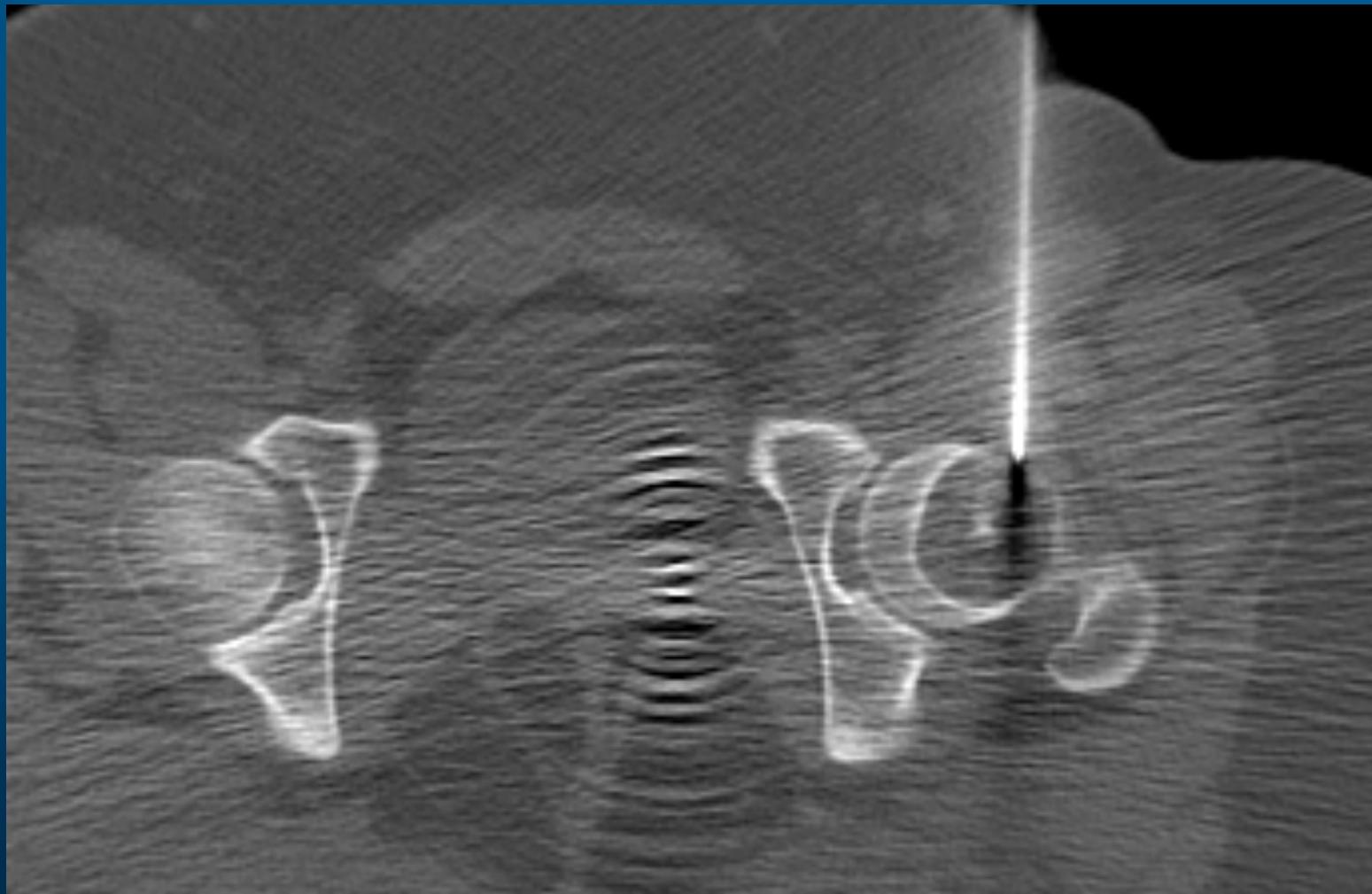
Findings:

- X-ray: Left hip demonstrate expansile lucent lesion of the femur head and neck with partially circumscribed margins
- MRI: Expansile intramedullary lesion within the femoral head and neck which demonstrates low T1 signal, heterogeneous T2 signal, and heterogeneous enhancement on the postcontrast images. Mild cortical thinning along the medial anterior aspect of the femoral neck.

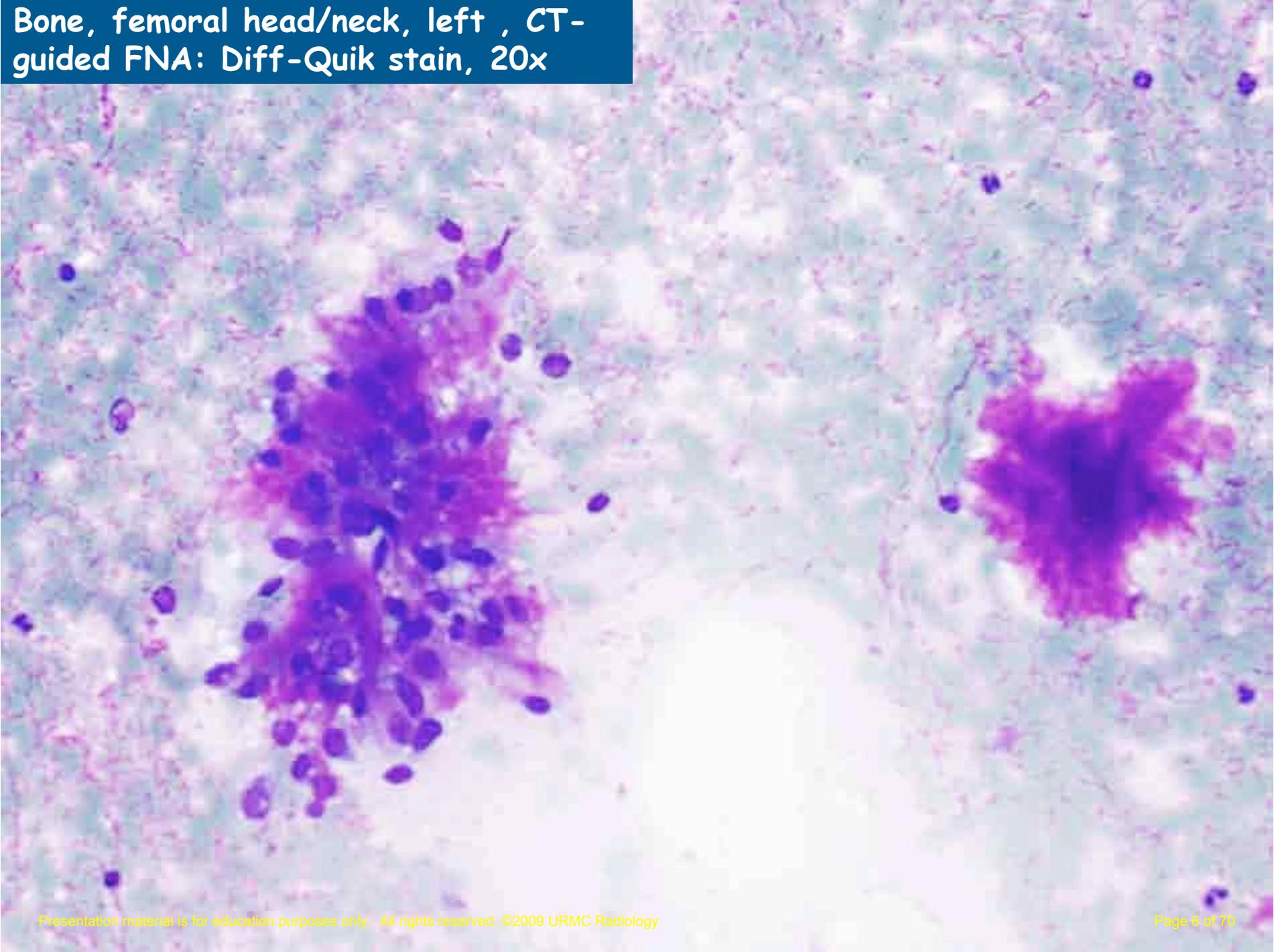
Differential Diagnosis:

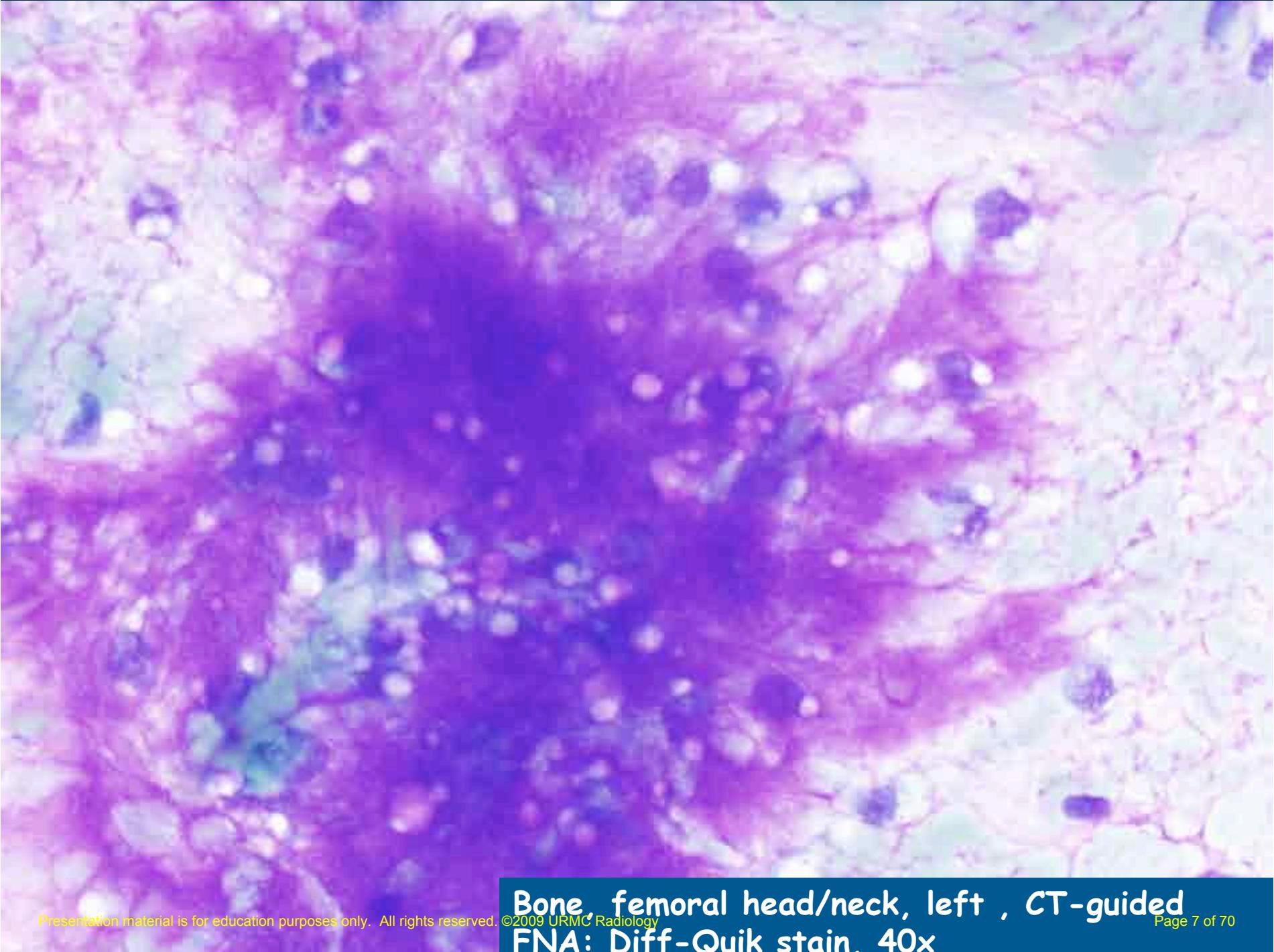
- Fibrous dysplasia
- Chondroid Matrix Lesions (enchondroma, chondrosarcoma, chondromyxofibroma)

CT-guided Bone Biopsy

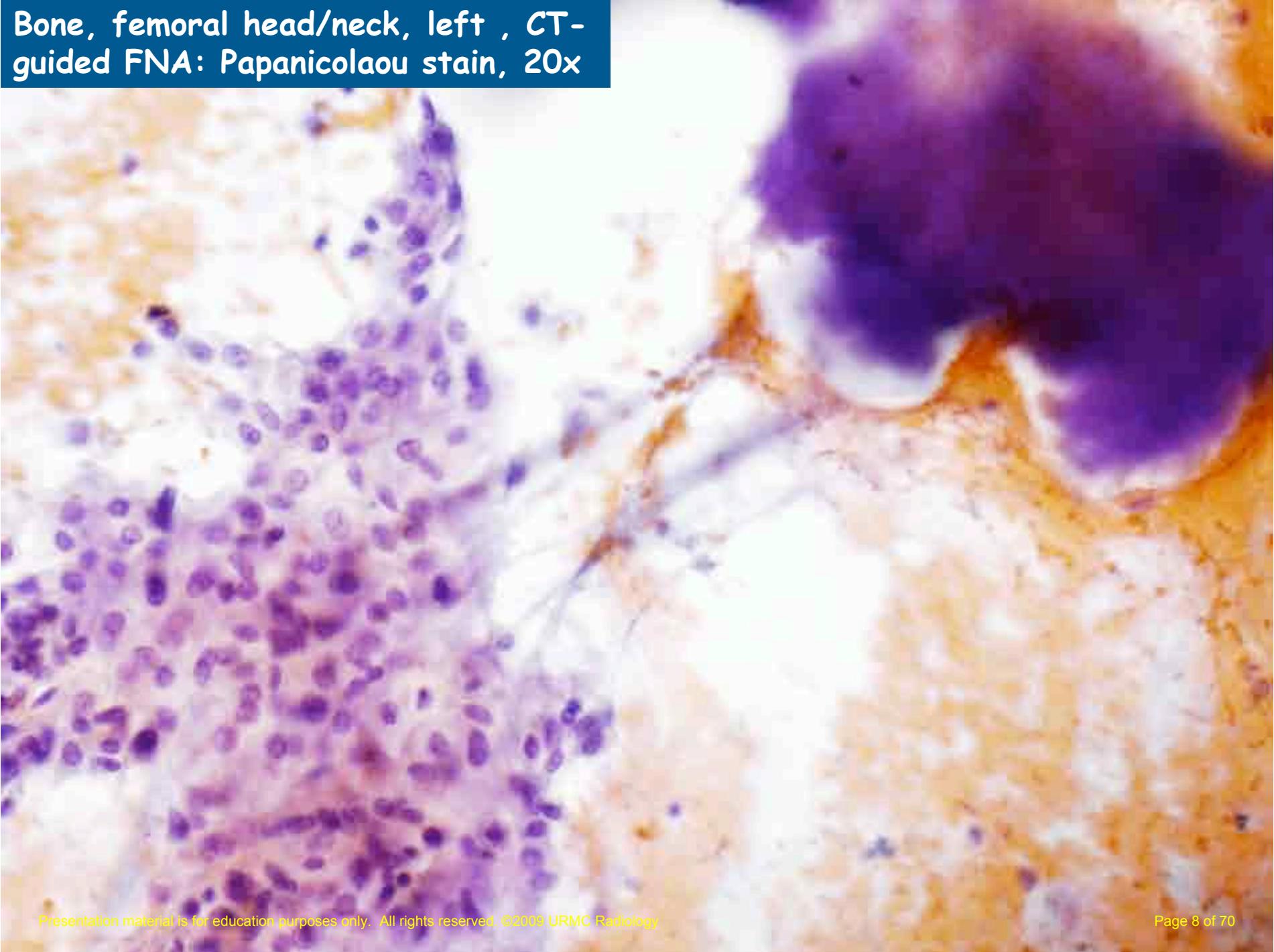


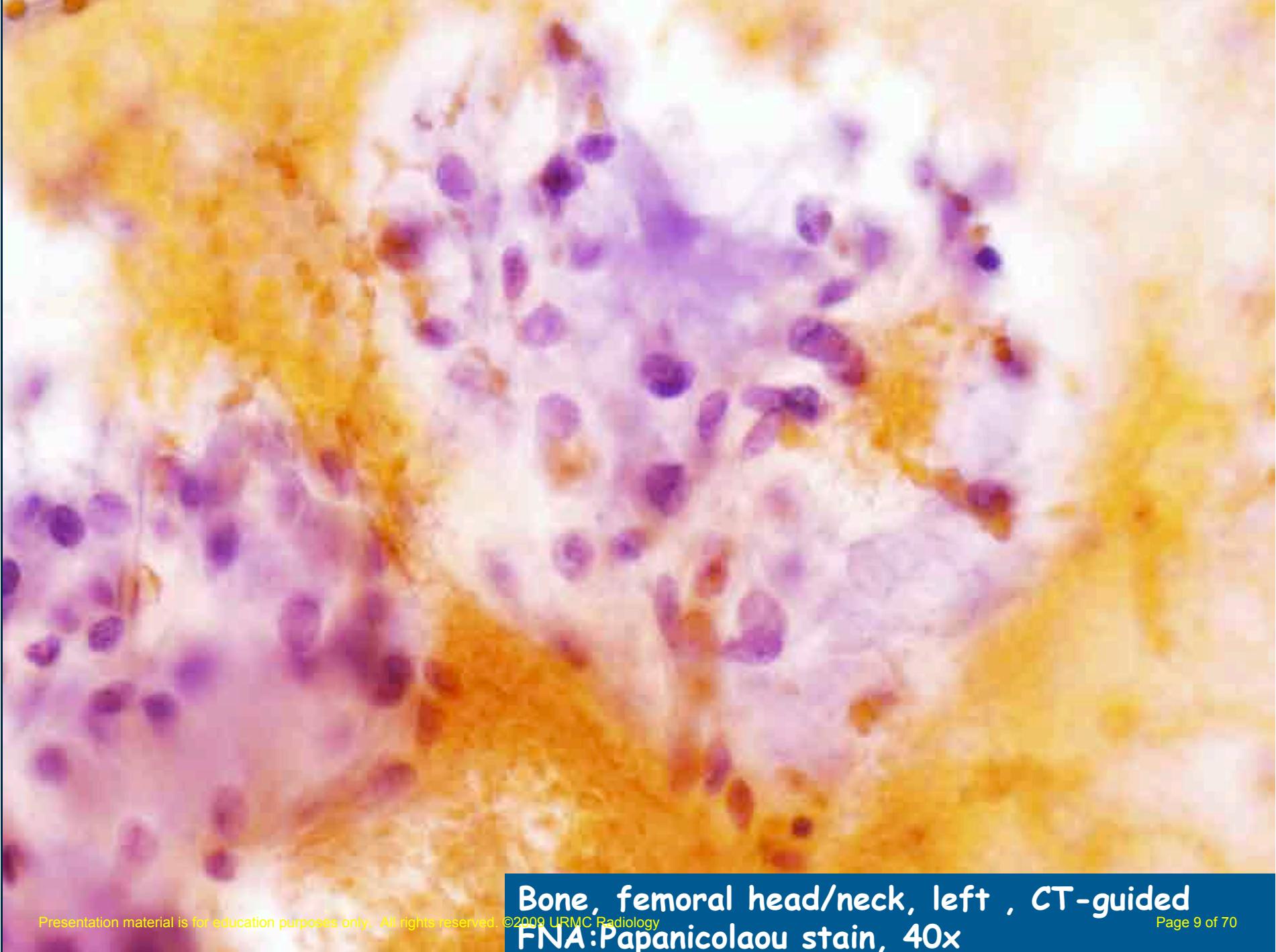
Bone, femoral head/neck, left , CT-
guided FNA: Diff-Quik stain, 20x





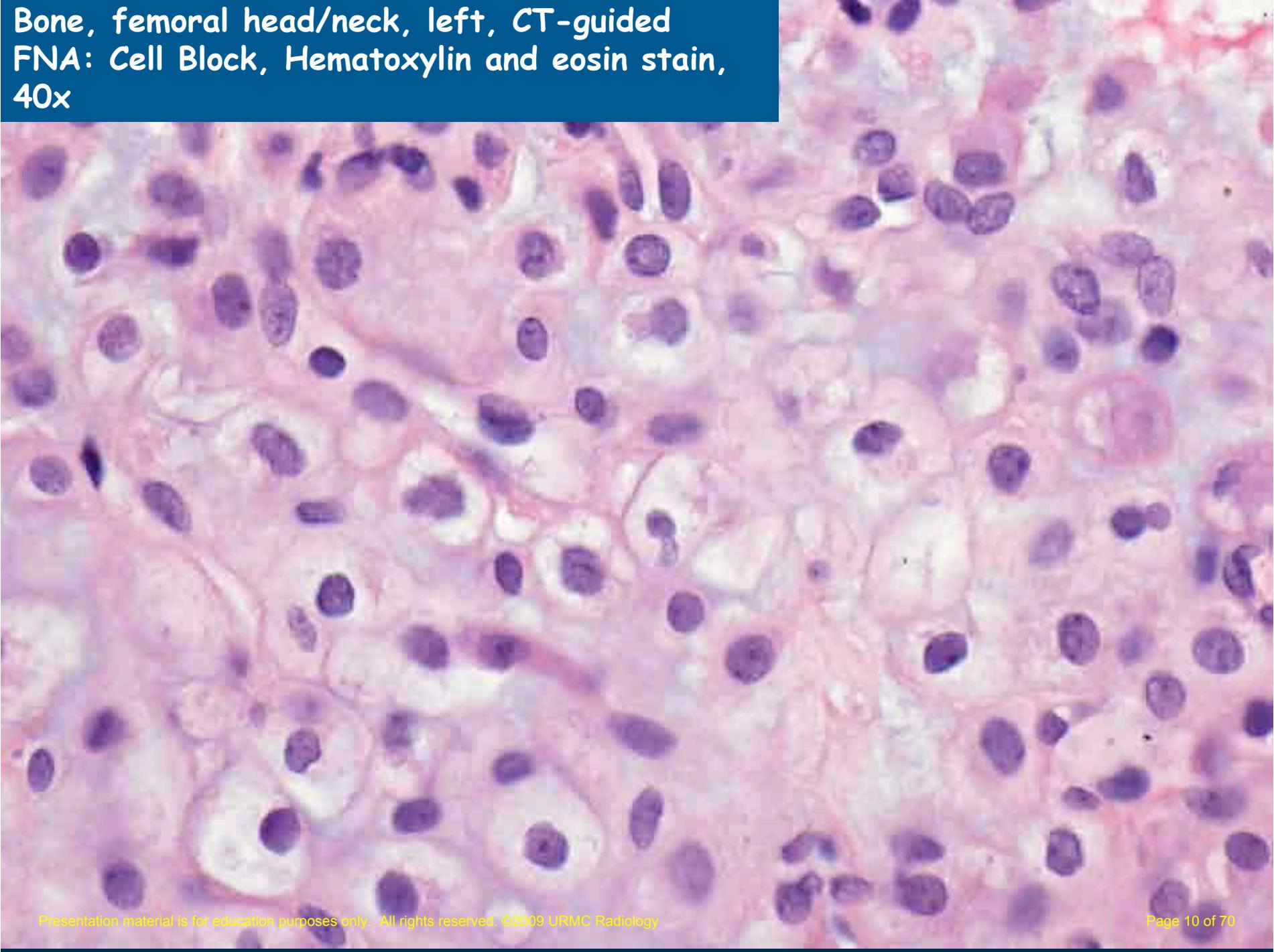
Bone, femoral head/neck, left , CT-guided FNA: Papanicolaou stain, 20x





**Bone, femoral head/neck, left , CT-guided
FNA:Papanicolaou stain, 40x**

Bone, femoral head/neck, left, CT-guided
FNA: Cell Block, Hematoxylin and eosin stain,
40x



Bone, femoral head/neck, left, CT-guided fine needle aspiration:

Chondromyxoid neoplasm, probably low grade.

Comment: This case was evaluated in conjunction with the core biopsy specimen. *Differential diagnosis includes chondrosarcoma and clear cell chondrosarcoma.* Chondroblastoma is also a consideration, but seems less likely based on this material. Additional tissue biopsy is recommended in order to facilitate more definitive classification.

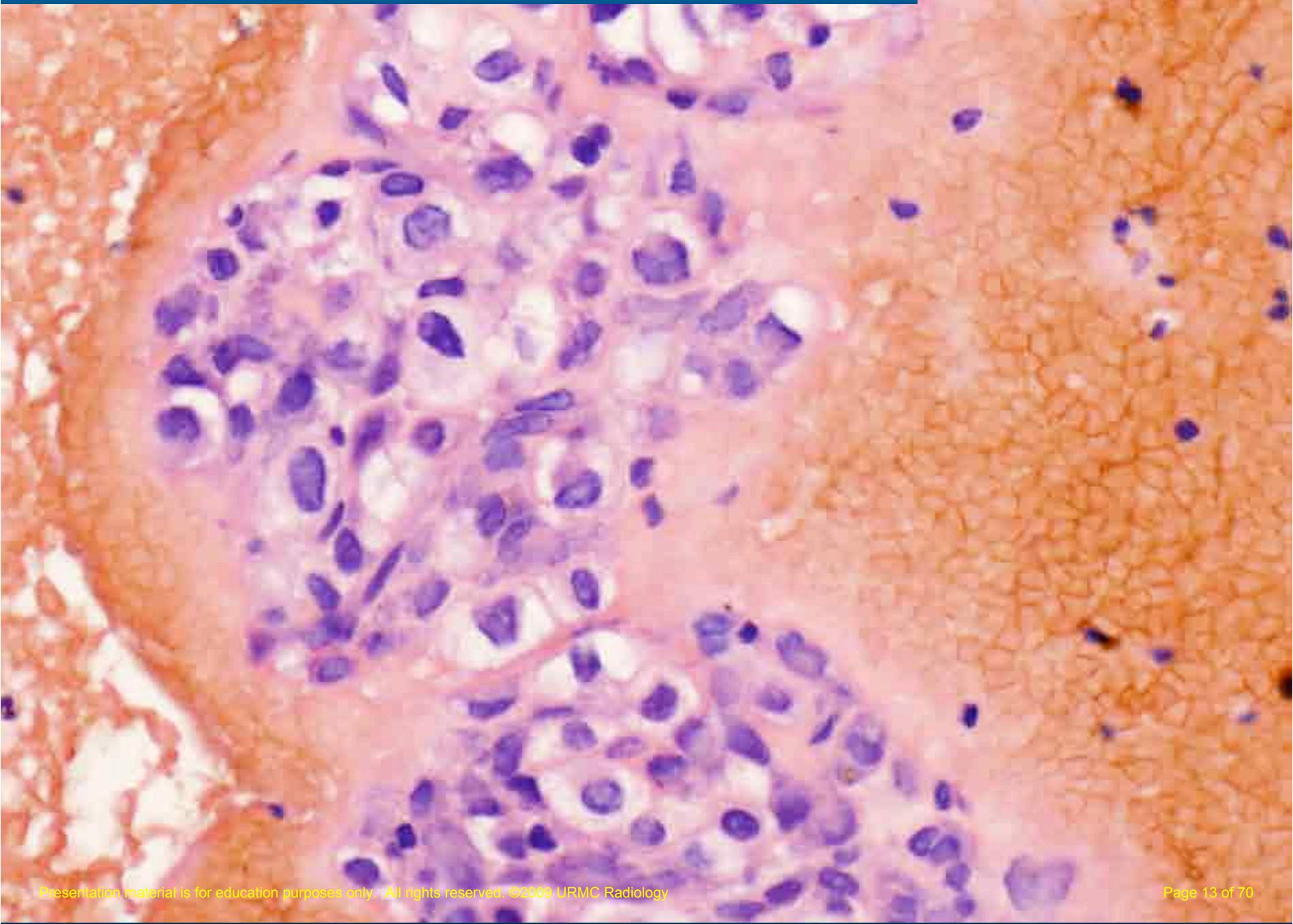
Cell block and cytologic preparations examined.

Bone, left femoral neck, core needle biopsy:

Blood clot with scanty fragments of tissue showing chondromyxoid neoplasm with necrosis and bone formation.

Comment: The tissue is too minimal for a definitive diagnosis. A low grade chondroid forming neoplasm is favored.

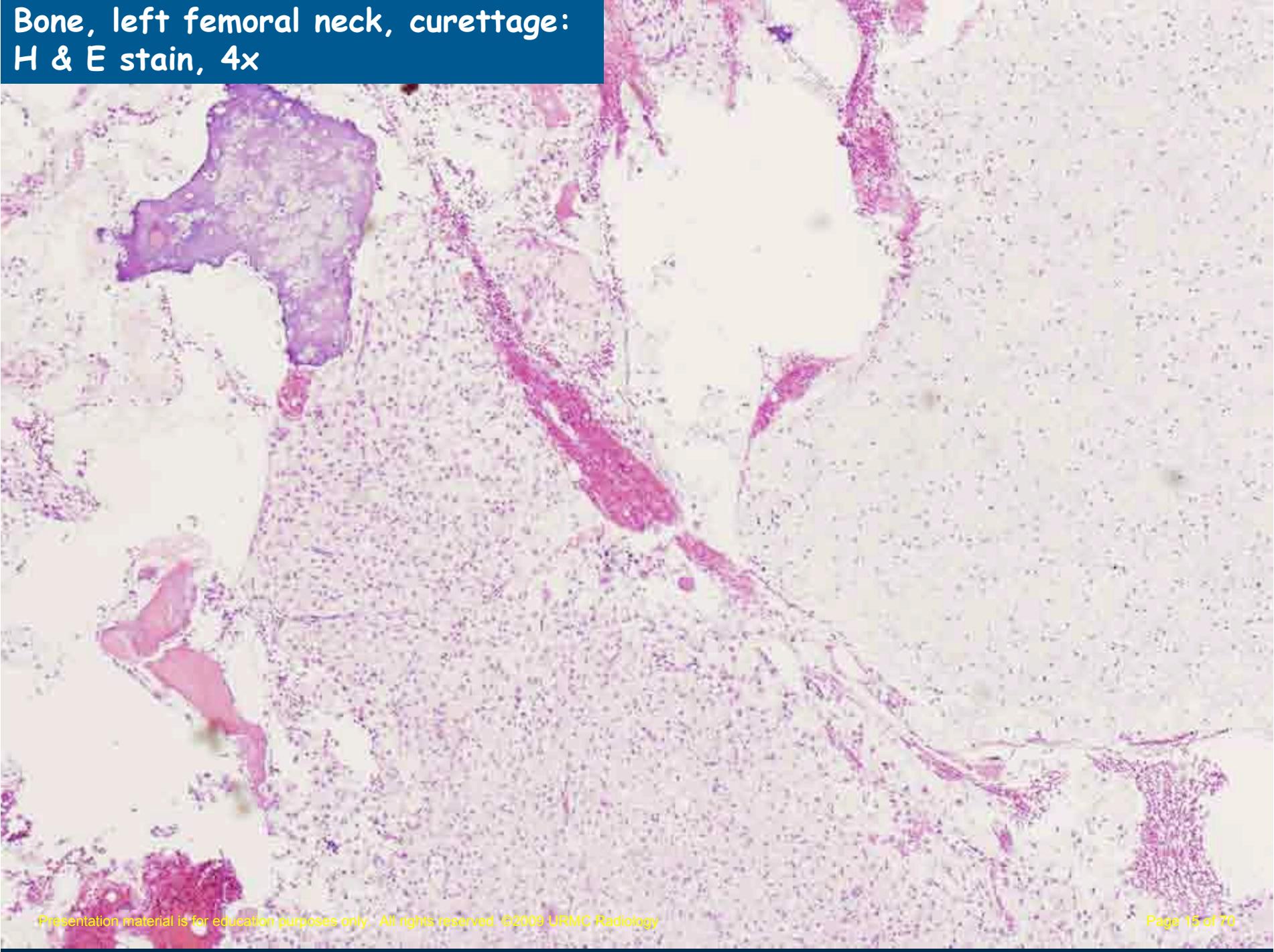
Bone, left femoral neck, core biopsy: H & E stain, 40x



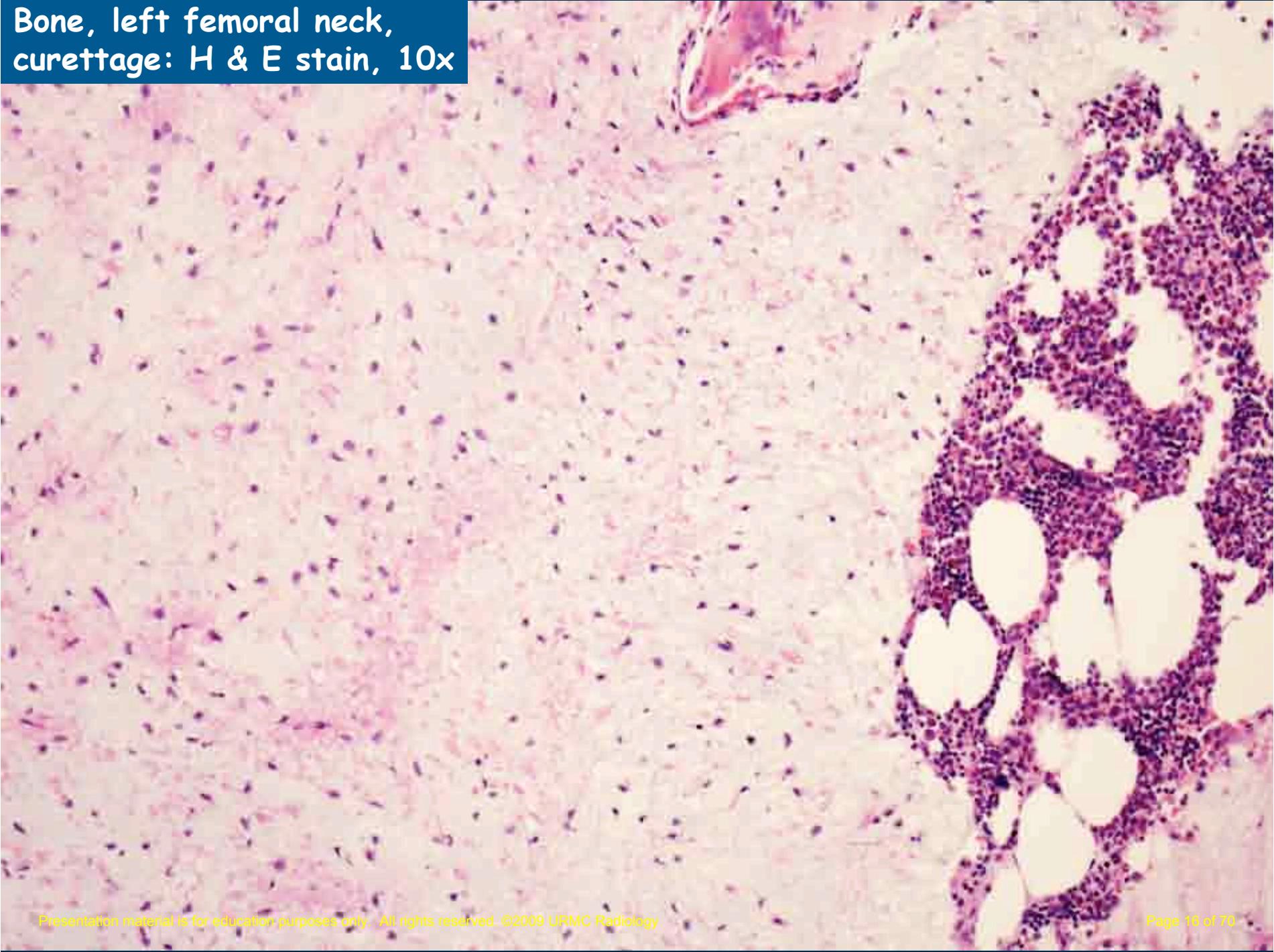
Bone, left femoral neck,
curettage:

Clear cell chondrosarcoma.

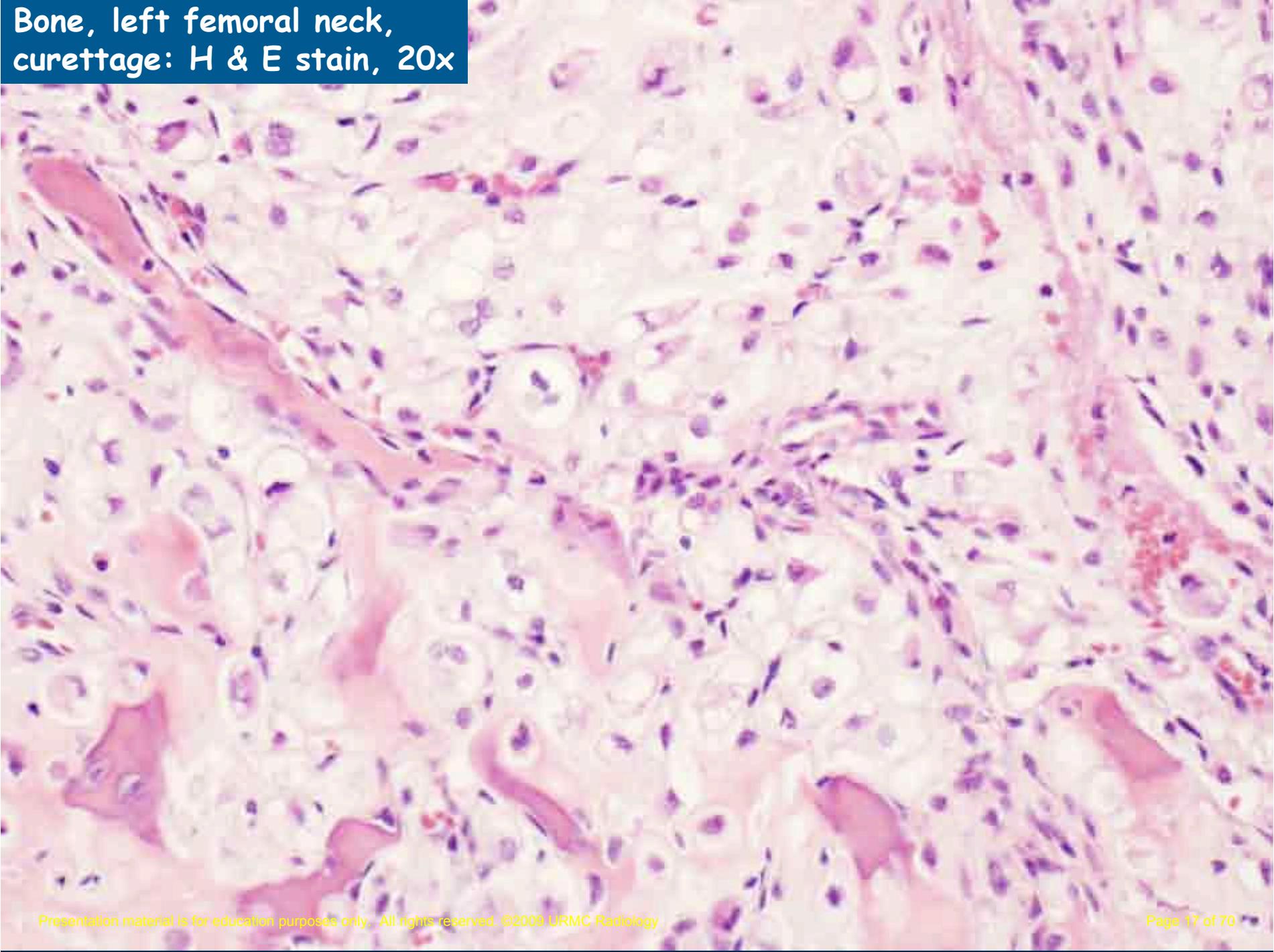
Bone, left femoral neck, curettage:
H & E stain, 4x



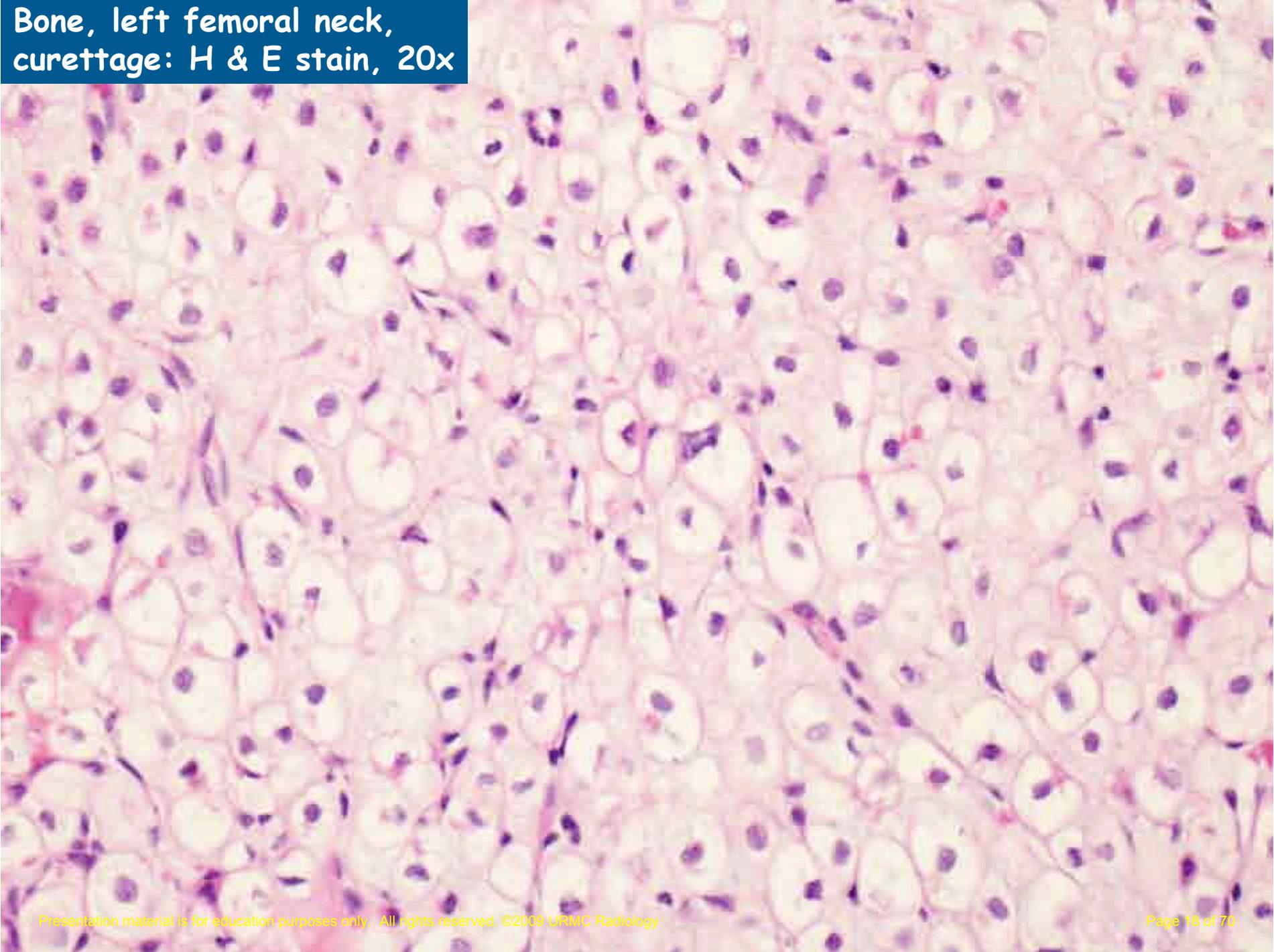
Bone, left femoral neck,
curettage: H & E stain, 10x



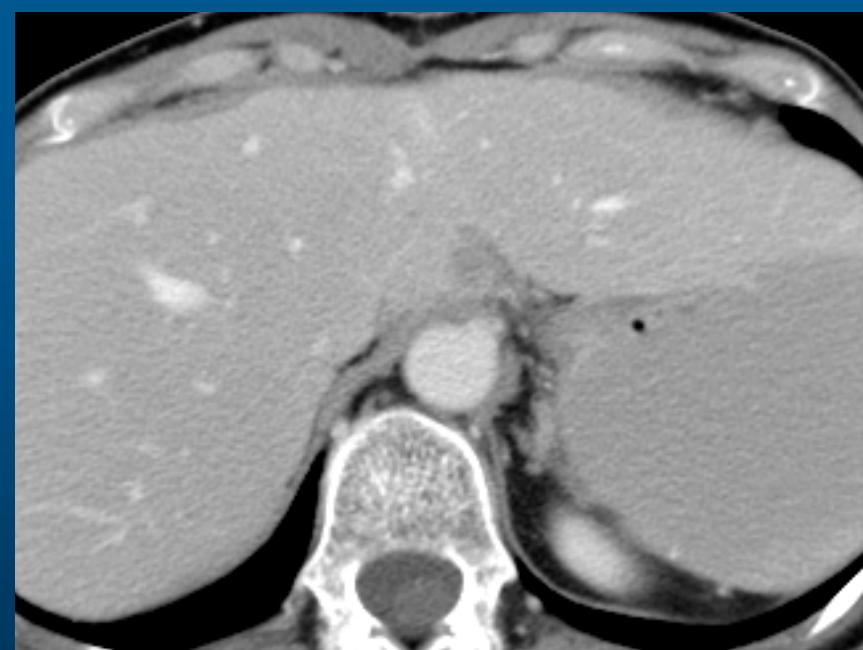
Bone, left femoral neck,
curettage: H & E stain, 20x

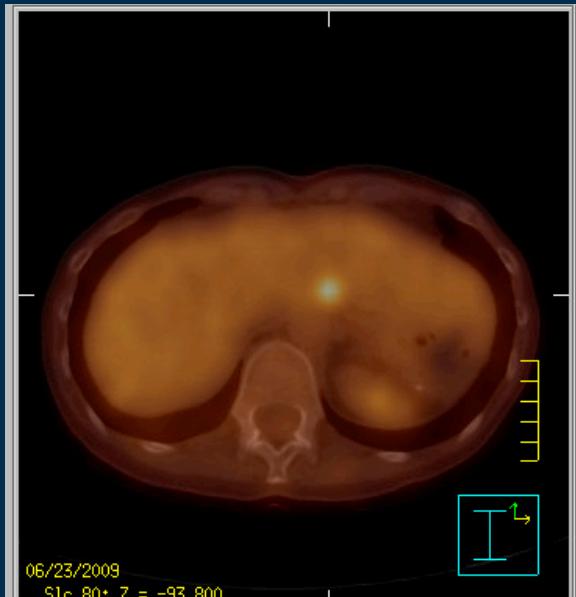


Bone, left femoral neck,
curettage: H & E stain, 20x



Case 2: 54-year-old female



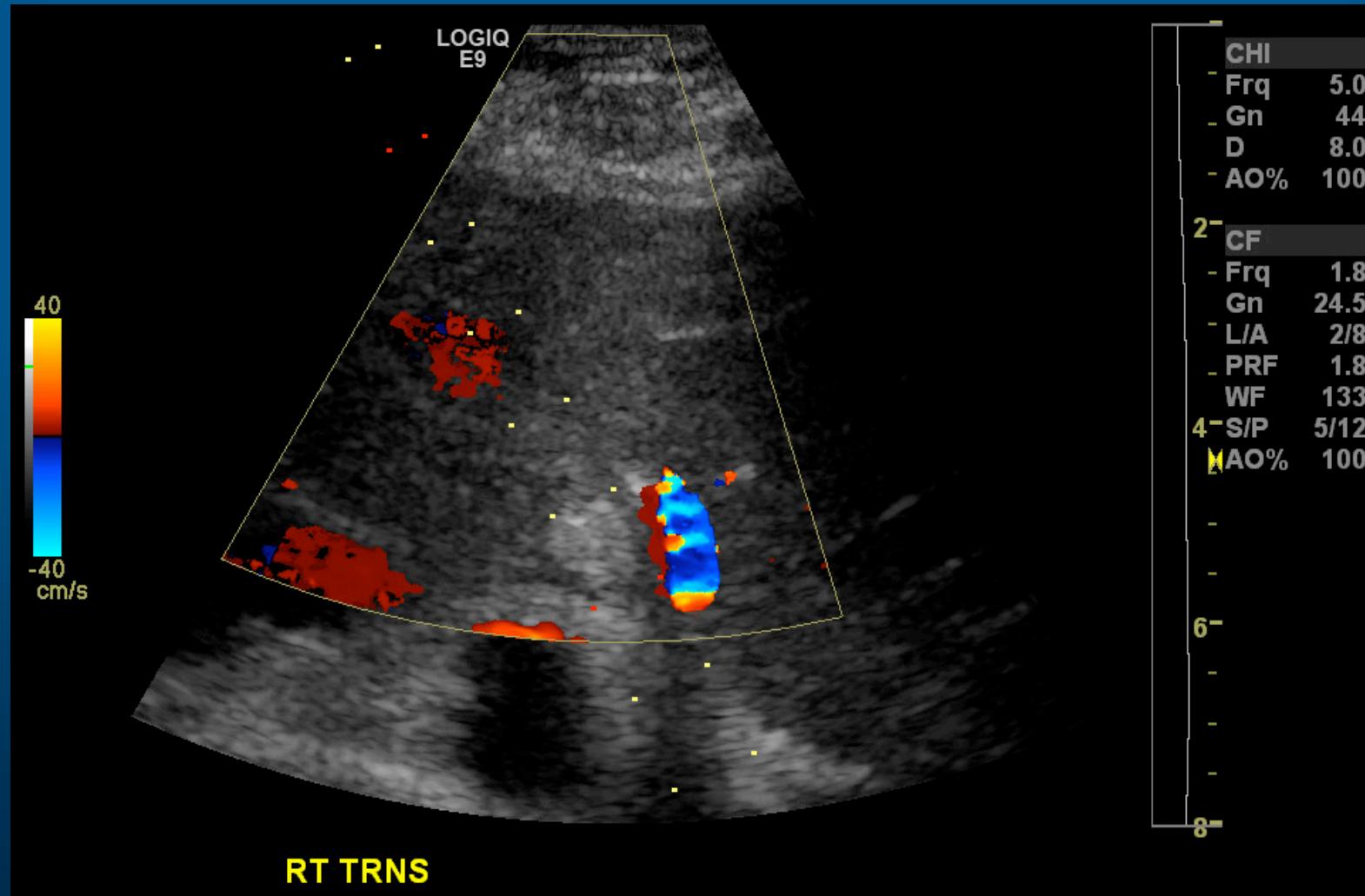


◆ Primary ◆ Secondary ◆ Fusion

Press Button 3 for image manipulation tools.



Ultrasound-guided Liver Biopsy



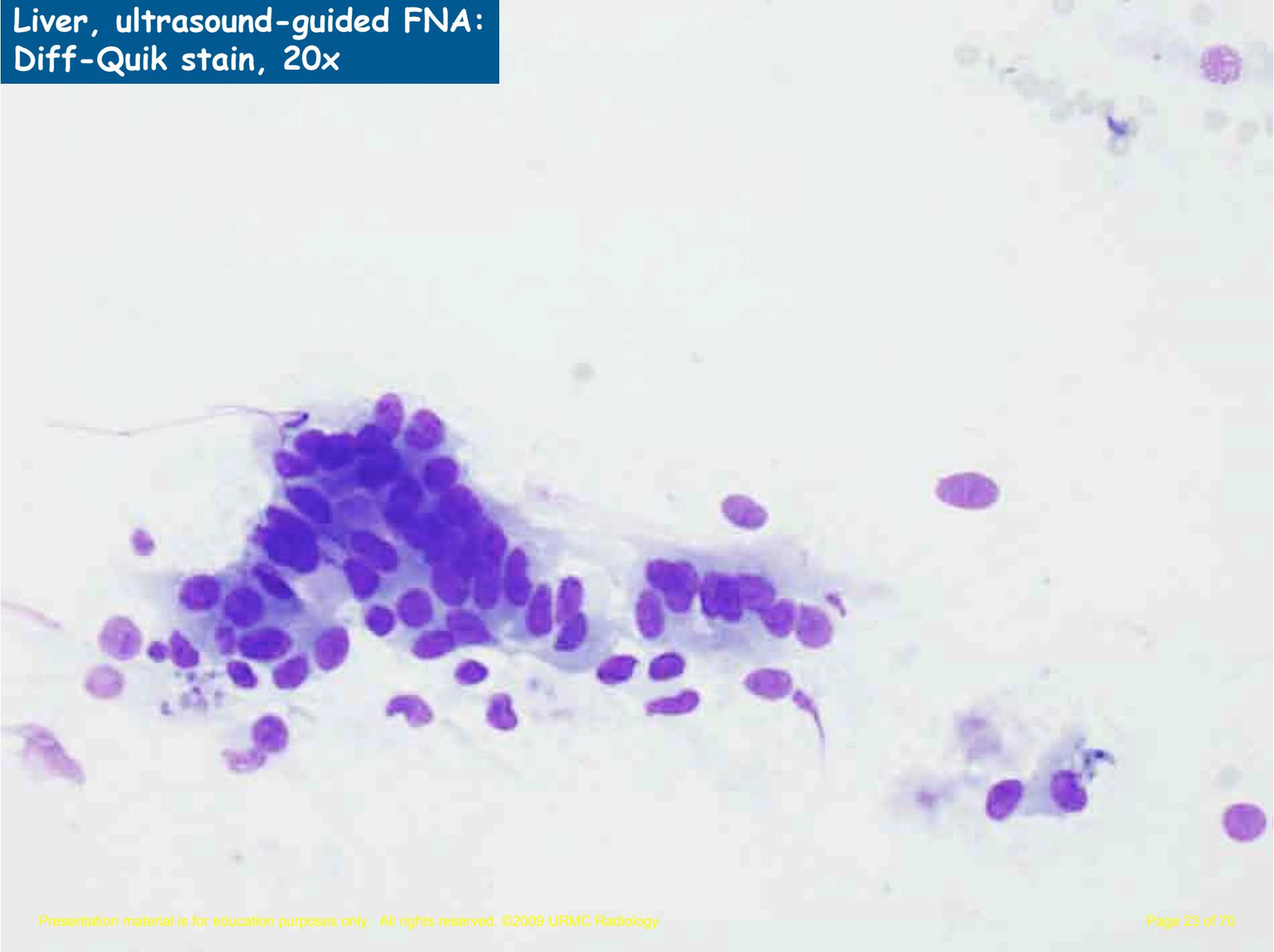
Findings:

- CT: Early-phase enhancing caudate lobe lesion.
- PET: Hypermetabolic lesion in the caudate lobe of the liver image 81 (SUV 3.9)
- US: Hyperechoic

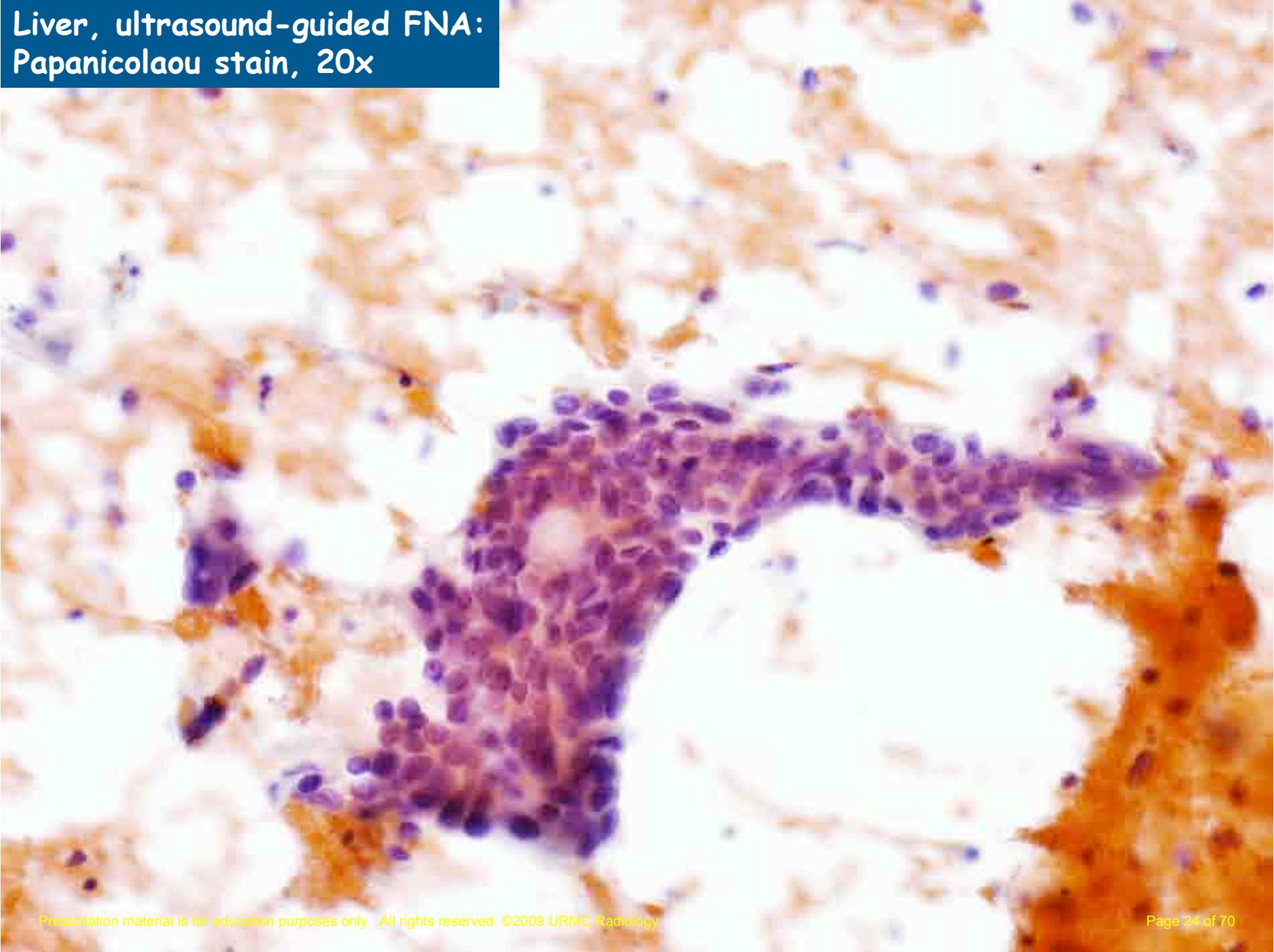
Differential Diagnosis (for rounded hyperechoic foci on ultrasound & hypermetabolic on PET):

- Hepatoma
- Metastatic Diseases (ie -- Colon Cancer)

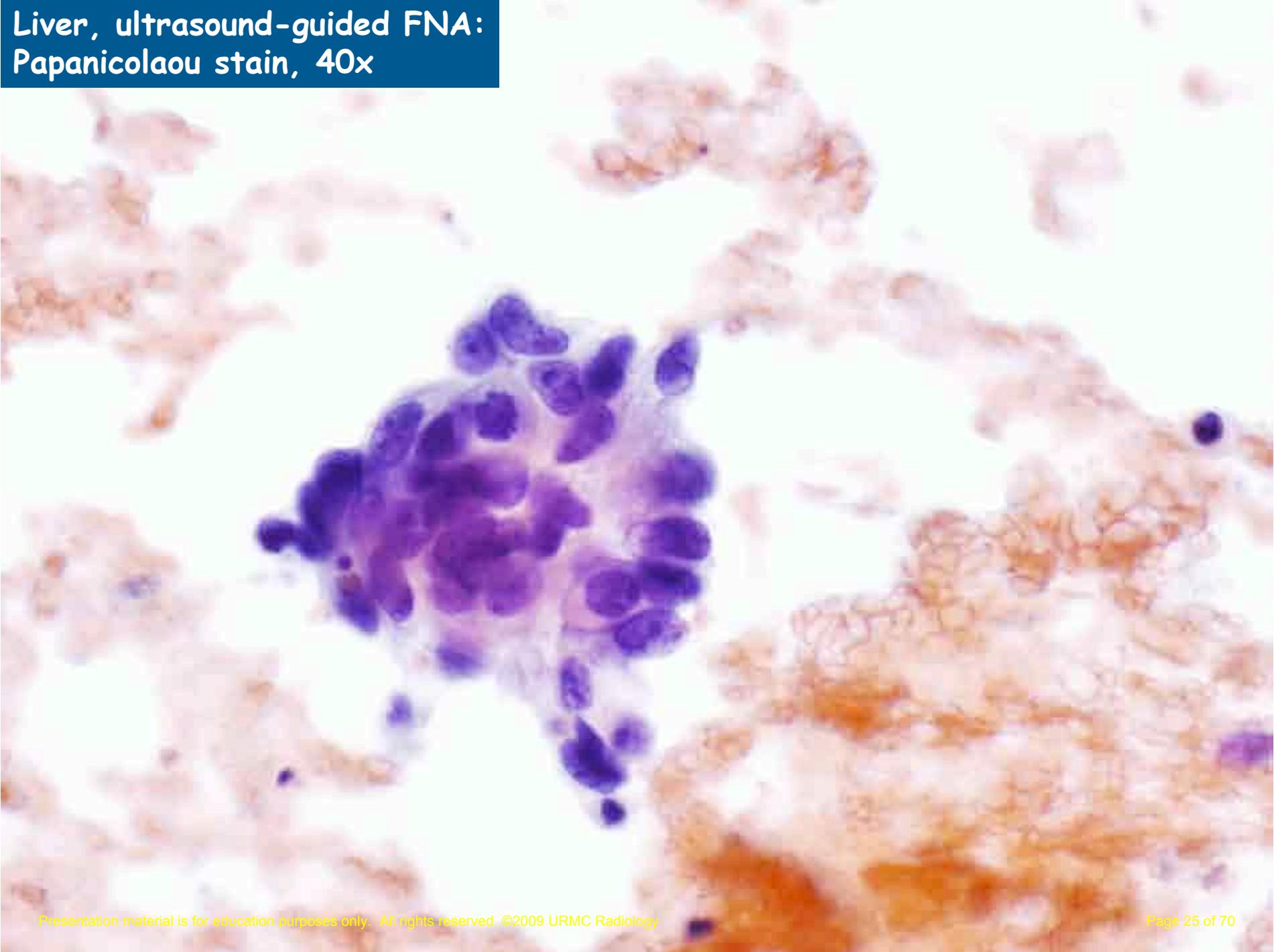
Liver, ultrasound-guided FNA:
Diff-Quik stain, 20x



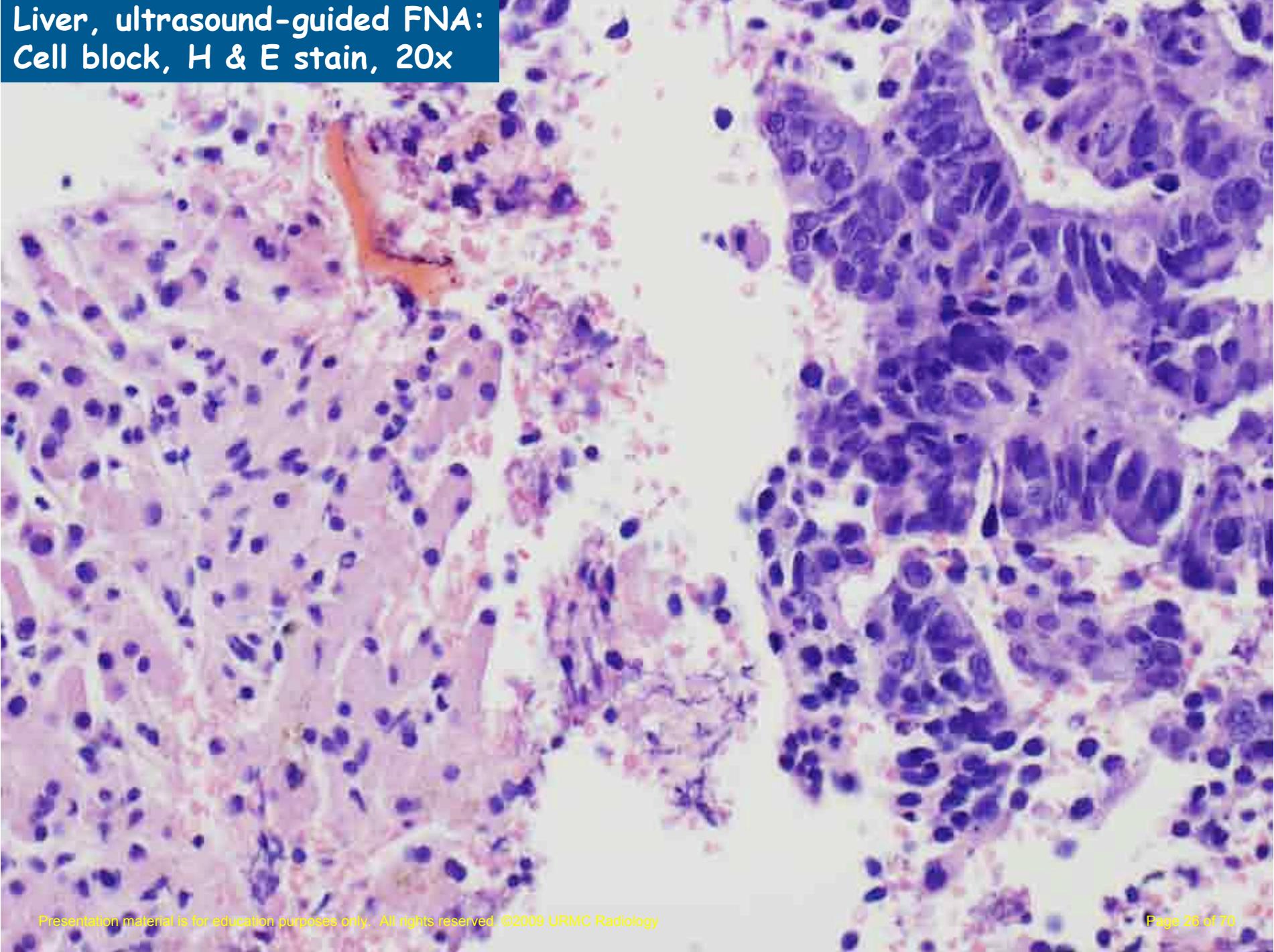
Liver, ultrasound-guided FNA:
Papanicolaou stain, 20x



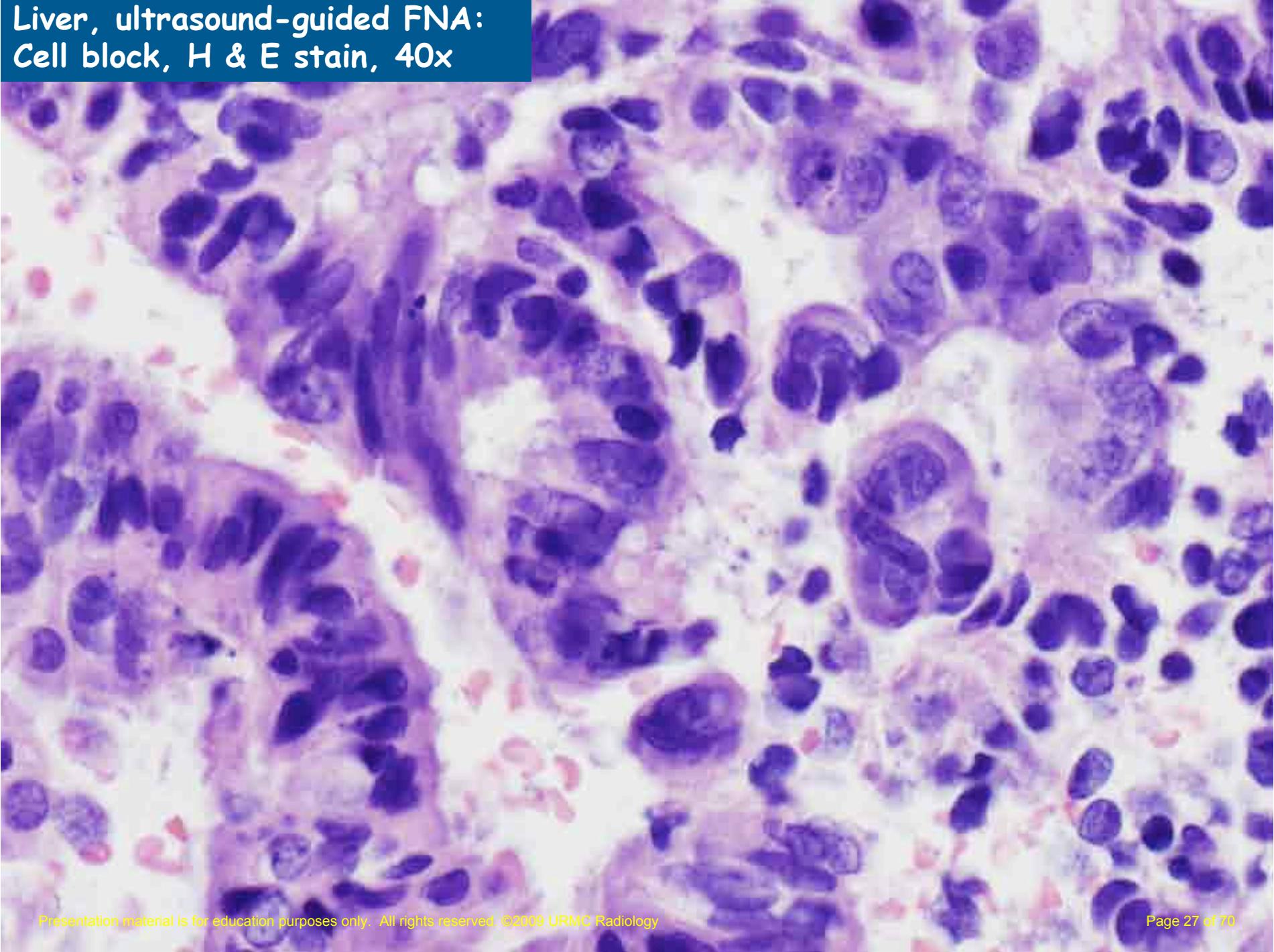
Liver, ultrasound-guided FNA:
Papanicolaou stain, 40x



Liver, ultrasound-guided FNA:
Cell block, H & E stain, 20x



Liver, ultrasound-guided FNA:
Cell block, H & E stain, 40x



Liver, ultrasound-guided fine needle aspiration:

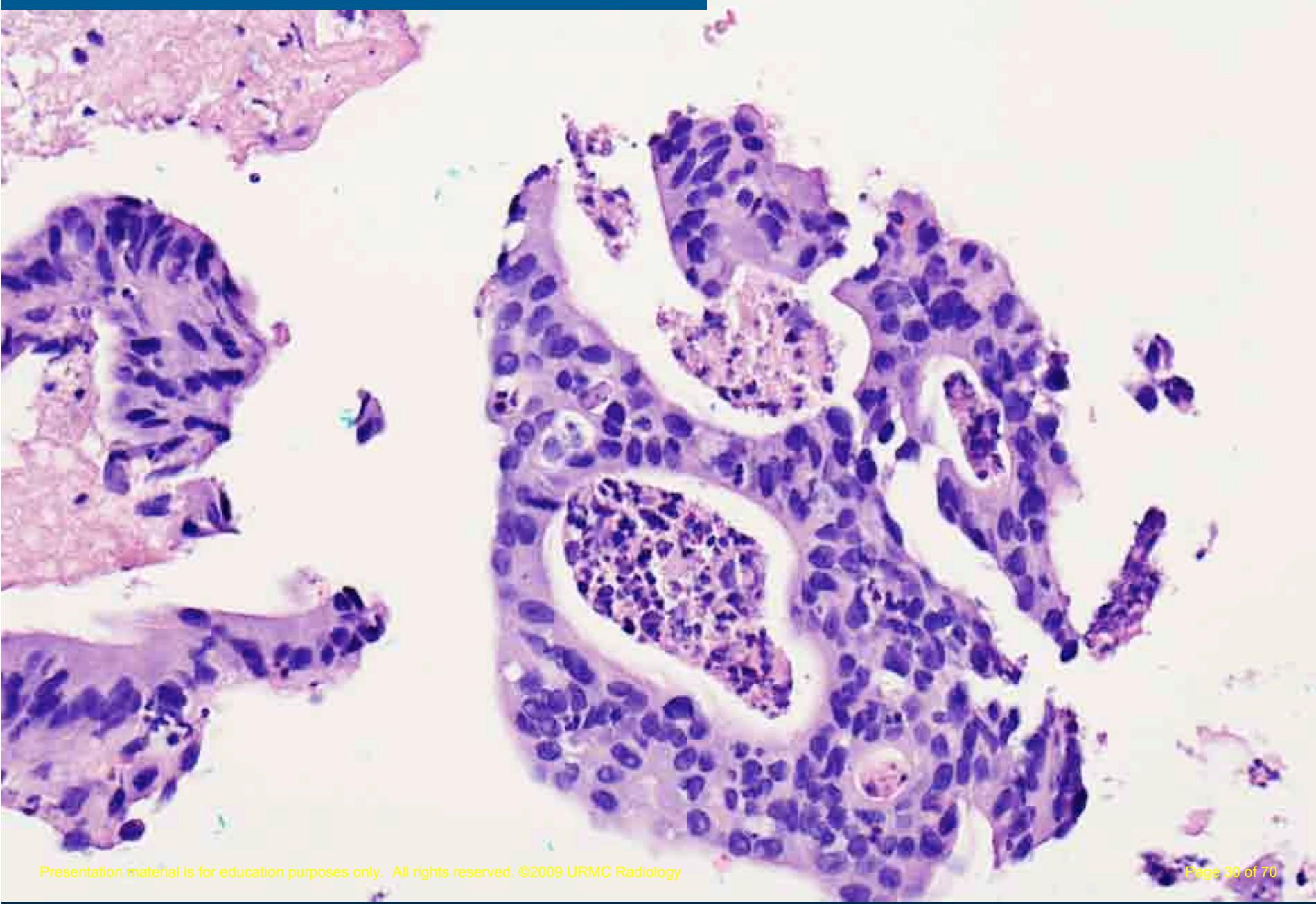
Malignant tumor cells present derived from adenocarcinoma consistent with colonic primary.

Cell block and cytologic preparations examined.

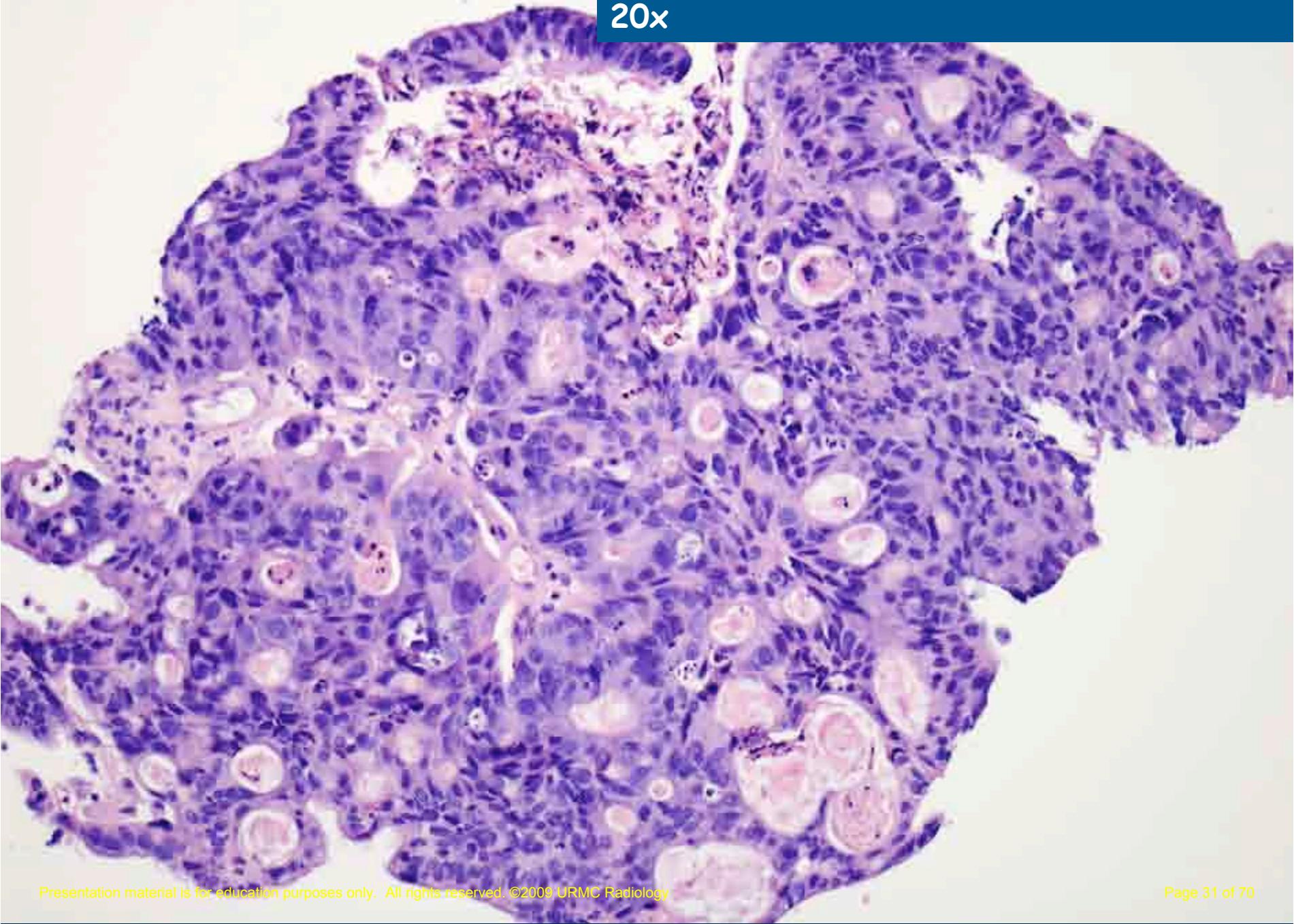
Liver, core needle biopsy:

**Moderately differentiated adenocarcinoma
consistent with colonic primary.**

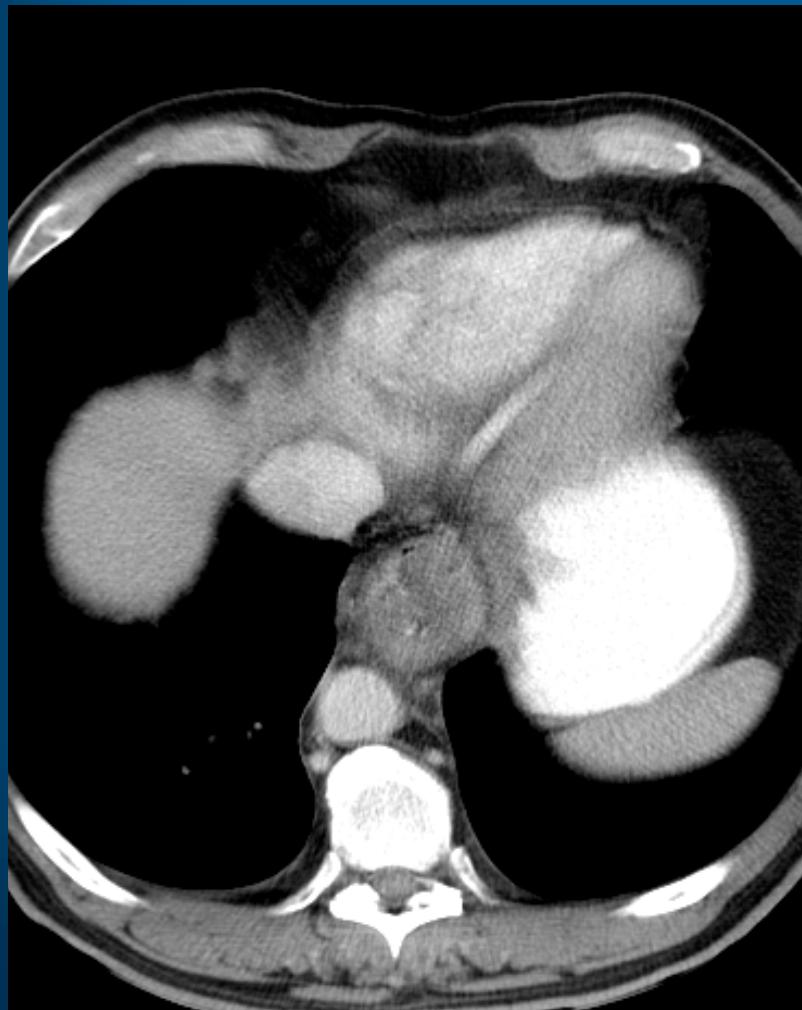
Liver, core needle biopsy: H & E stain,
20x



Liver, core needle biopsy: H & E stain,
20x



Case 3: 58-year-old male

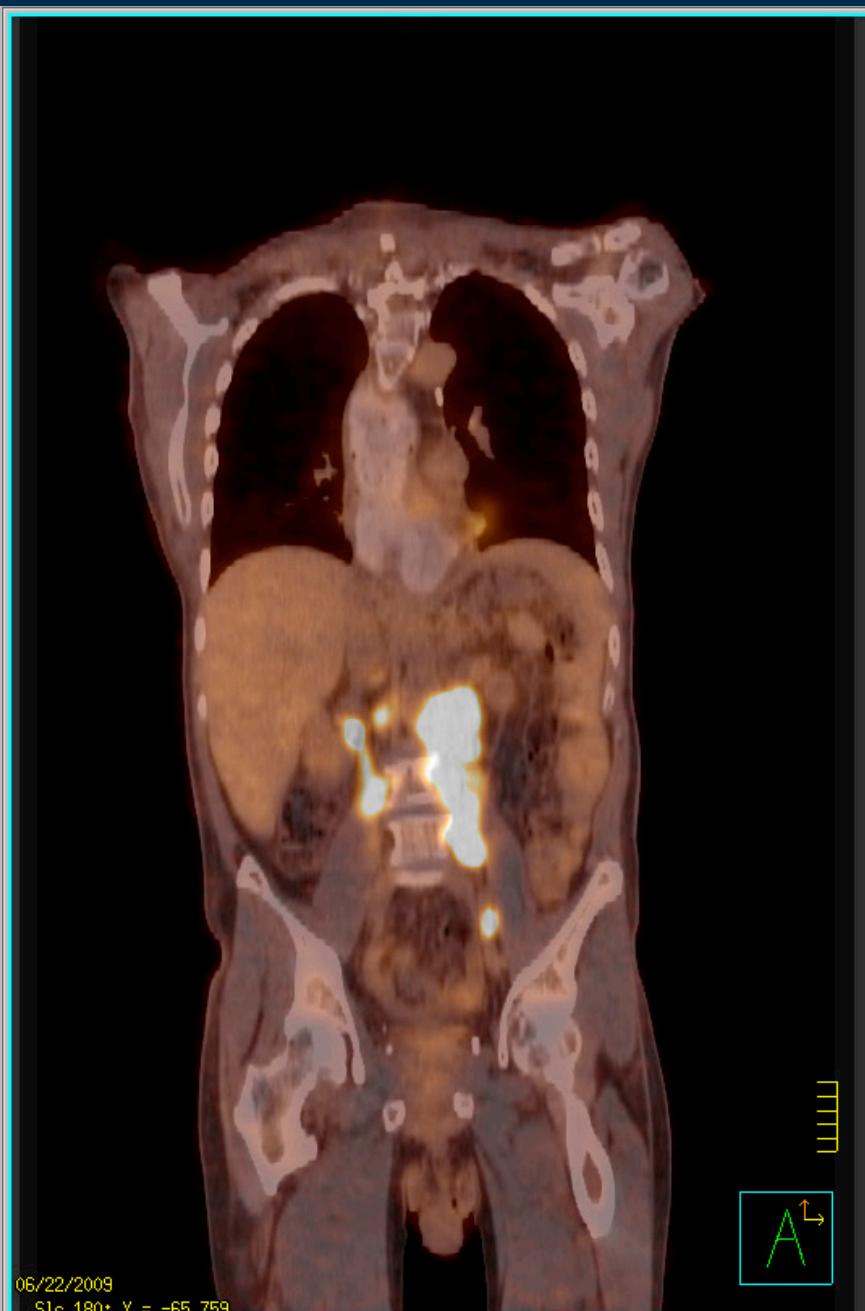


June 2008



February 2009





06/22/2009

slice 50; Local Y = -65.759

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06/22/2009

Slice 180; Y = -65.759

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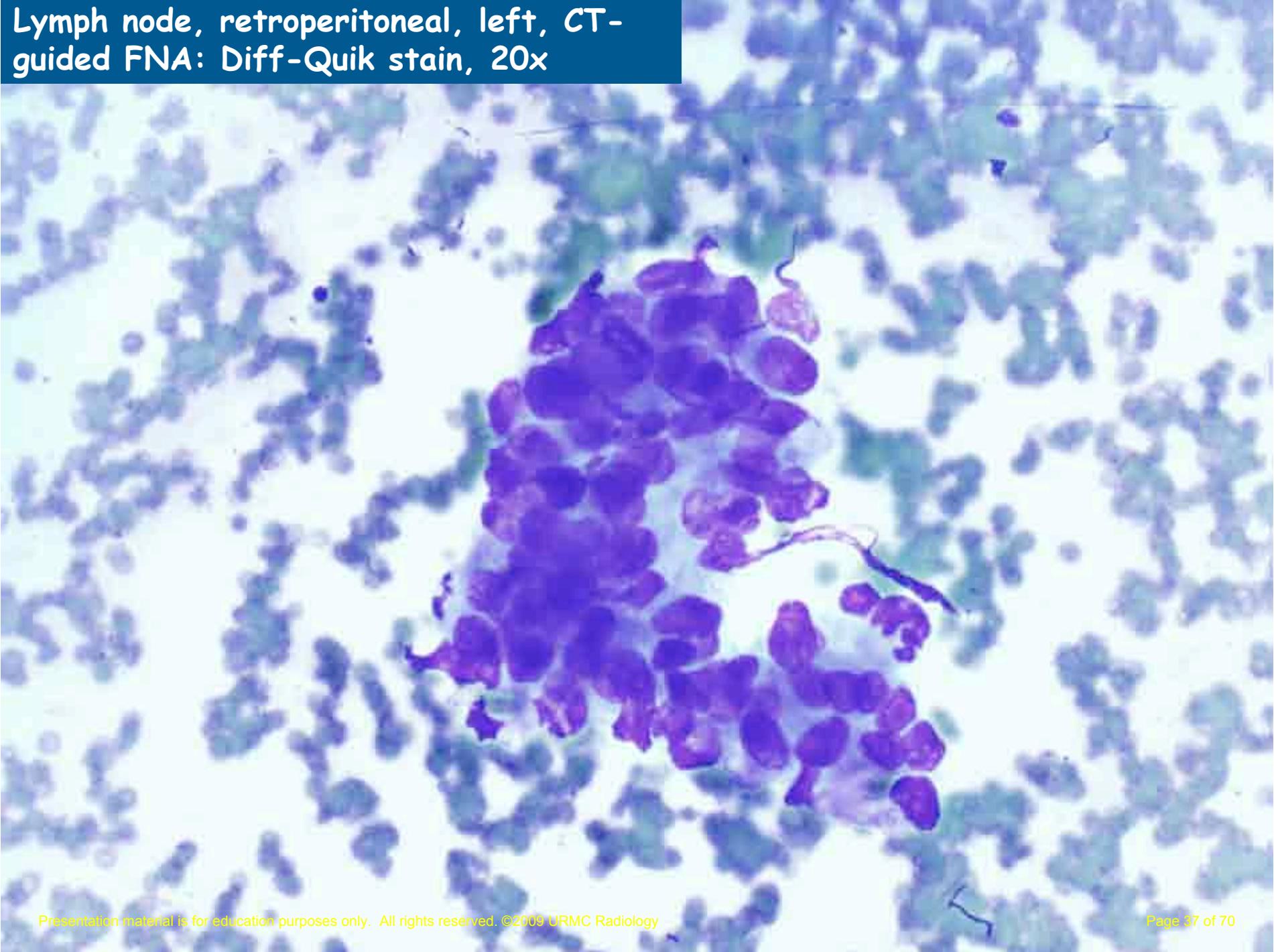
Findings:

- Initial CT: Abnormal circumferential wall thickening in the mid to distal esophagus
- UGI: Gastric pull-through
- Subsequent CT: Significant retroperitoneal lymphadenopathy
- PET: Extensive hypermetabolic abdominal lymphadenopathy

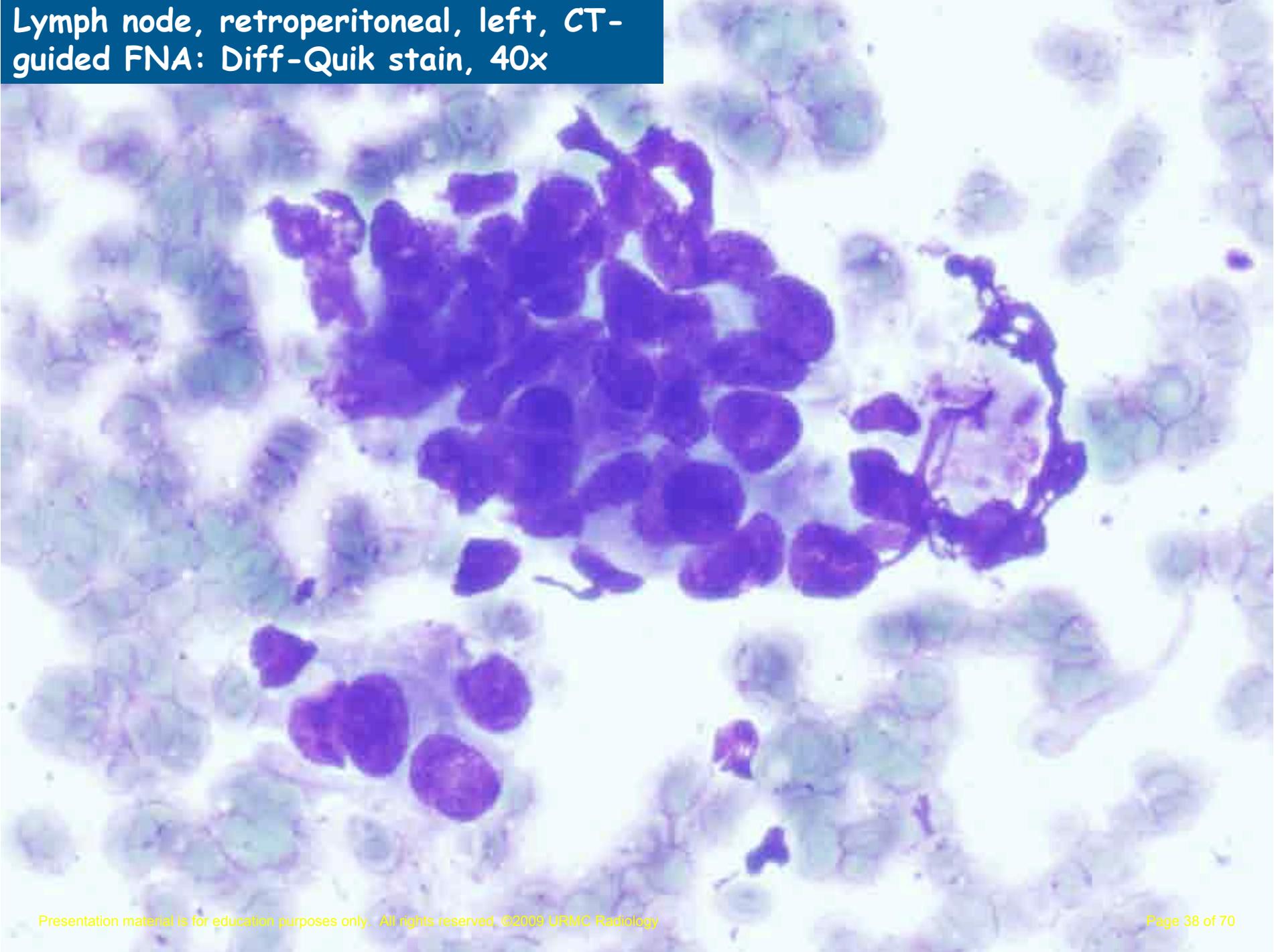
CT-guided Lymph Node biopsy



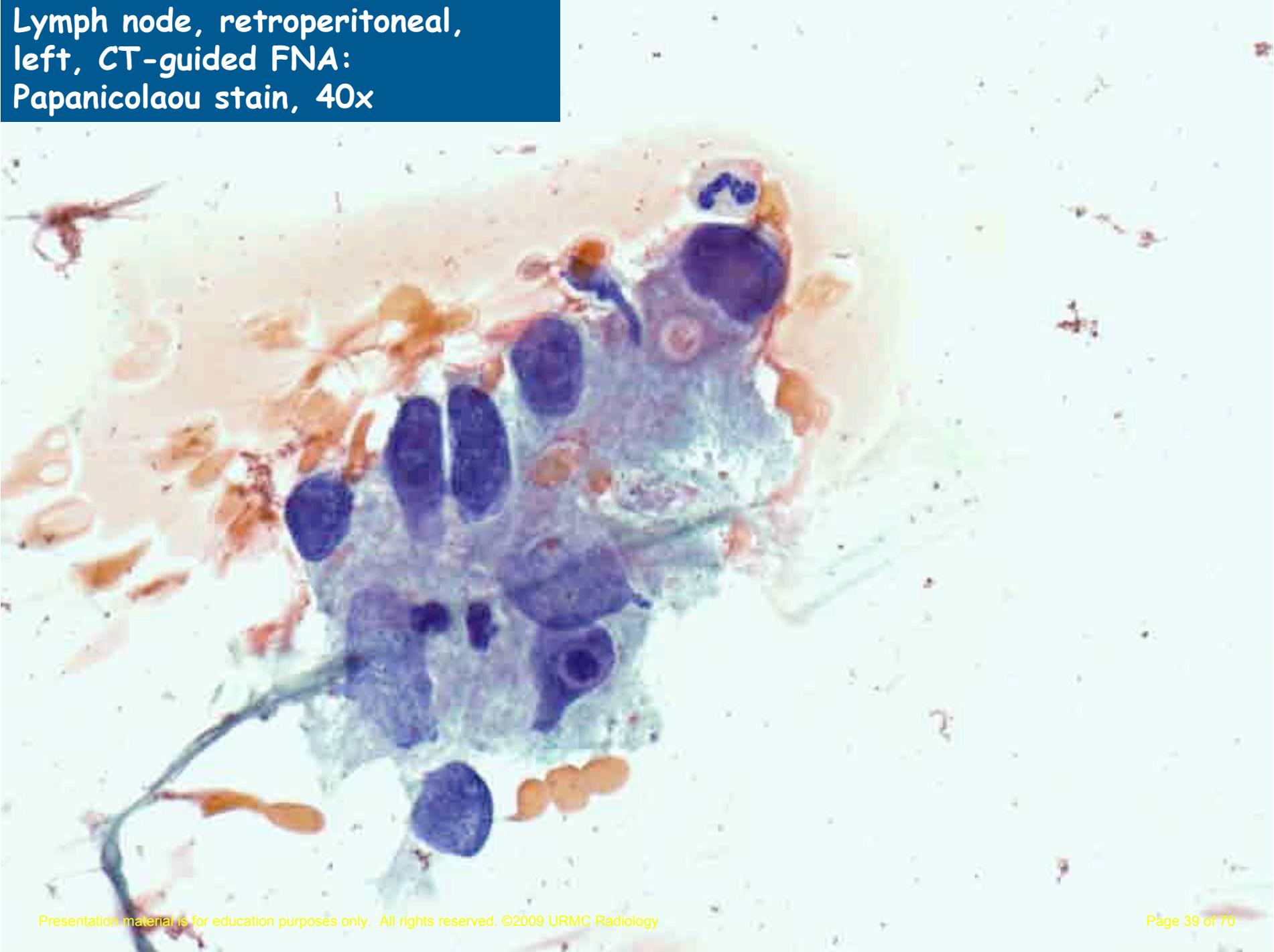
Lymph node, retroperitoneal, left, CT-guided FNA: Diff-Quik stain, 20x



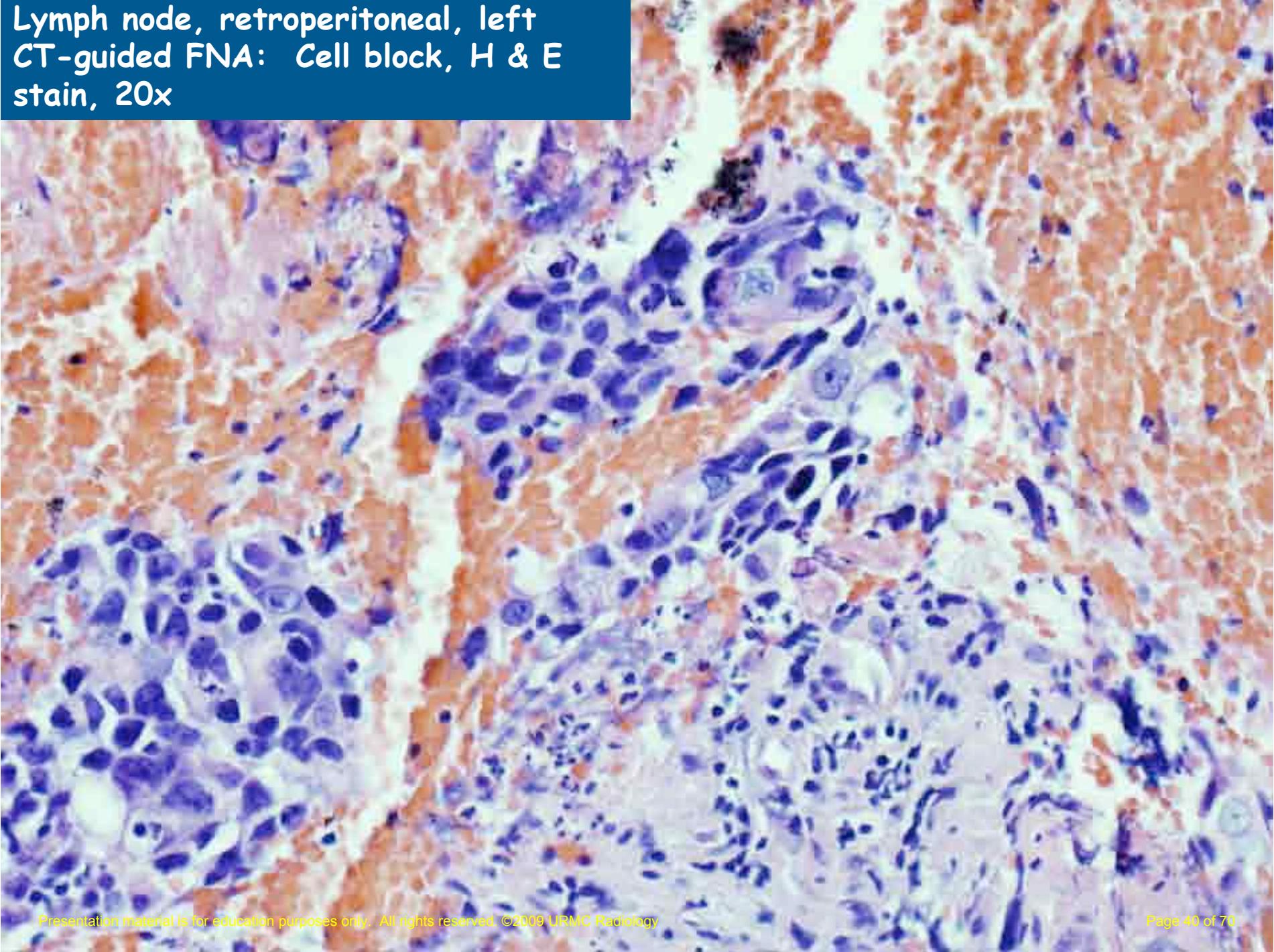
Lymph node, retroperitoneal, left, CT-guided FNA: Diff-Quik stain, 40x



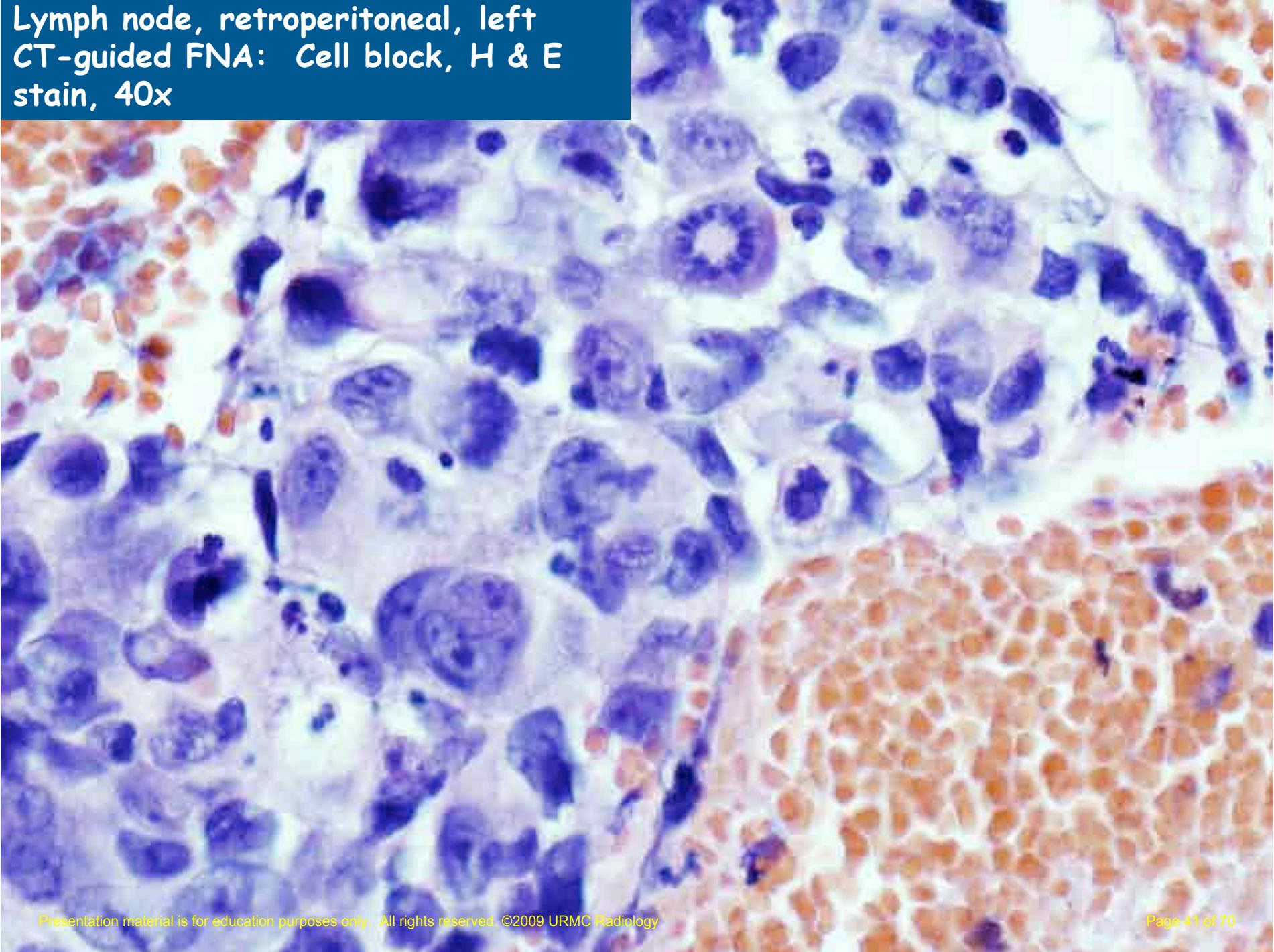
Lymph node, retroperitoneal,
left, CT-guided FNA:
Papanicolaou stain, 40x



Lymph node, retroperitoneal, left
CT-guided FNA: Cell block, H & E
stain, 20x



Lymph node, retroperitoneal, left
CT-guided FNA: Cell block, H & E
stain, 40x



Lymph node, retroperitoneal, left, CT-guided fine needle aspiration:

Malignant tumor cells present derived from adenocarcinoma.

Cell block and cytologic preparations examined.

Distal esophagus and proximal stomach,
esophagogastrectomy (status post
neoadjuvant chemo-radiotherapy) and
lymph nodes, left gastric excision:

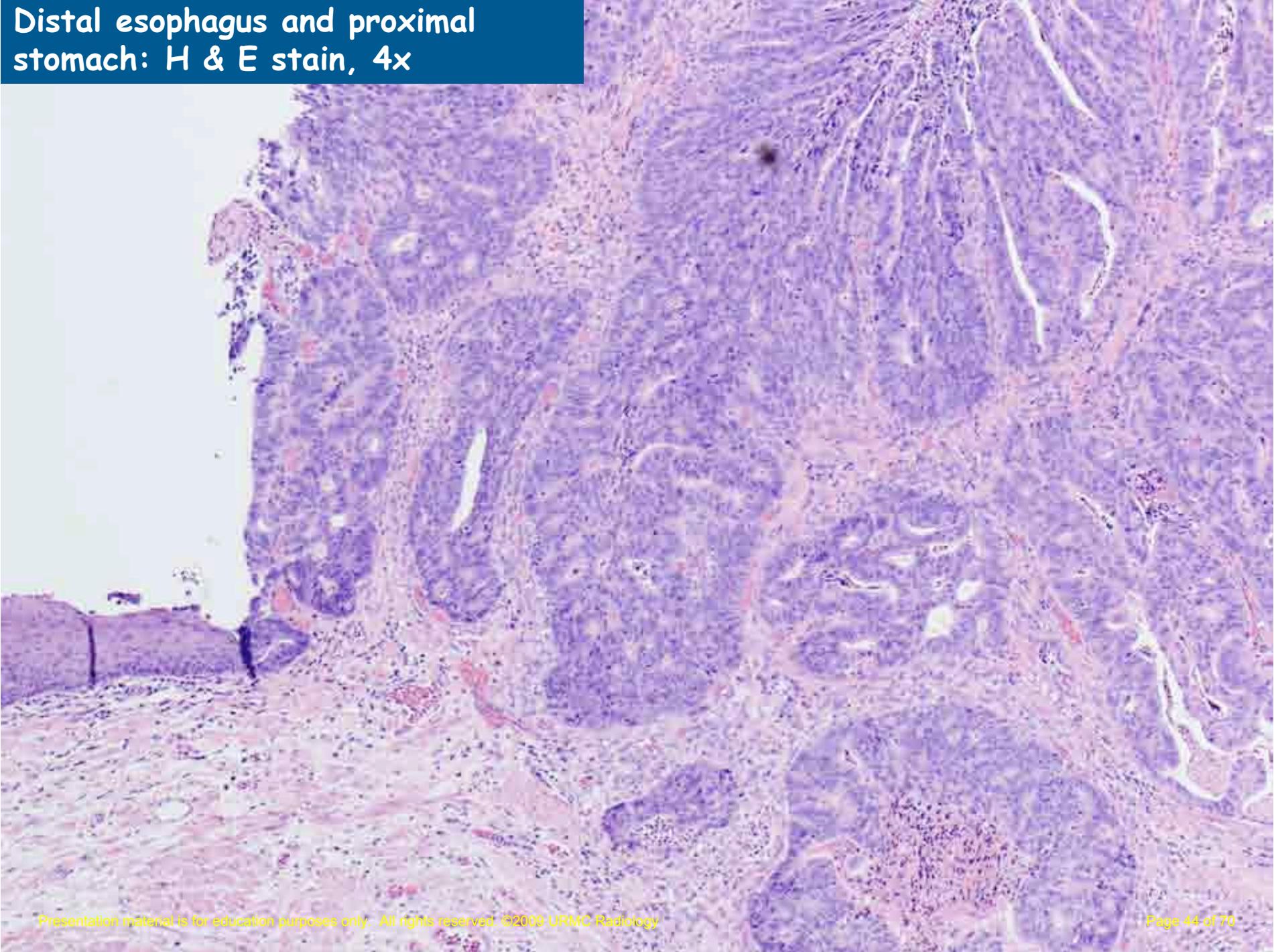
Adenocarcinoma, moderately to poorly
differentiated.

Tumor site: Gastroesophageal junction

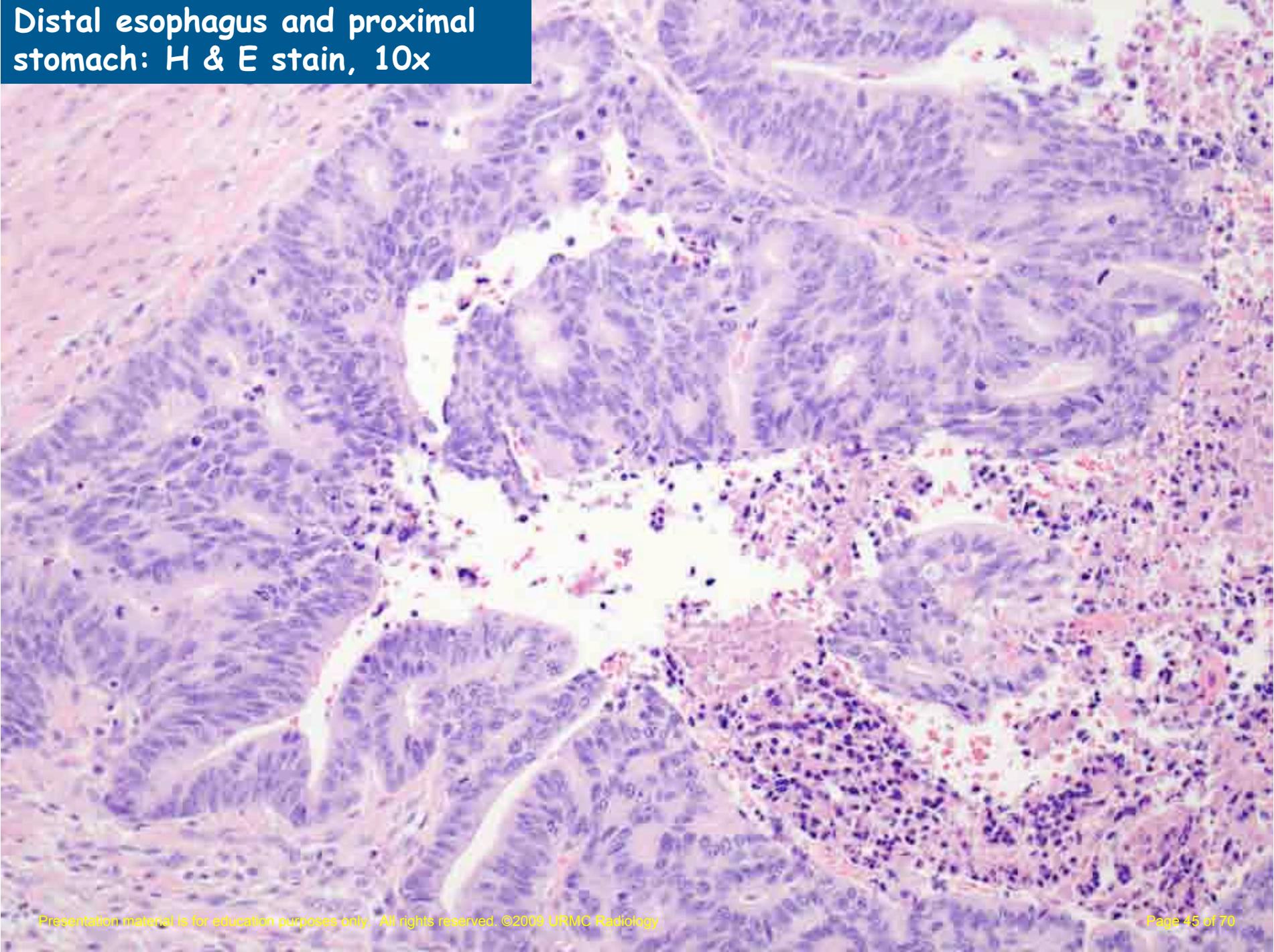
Tumor size: 4 x 3.2 cm

Metastatic adenocarcinoma in 1/25 lymph nodes

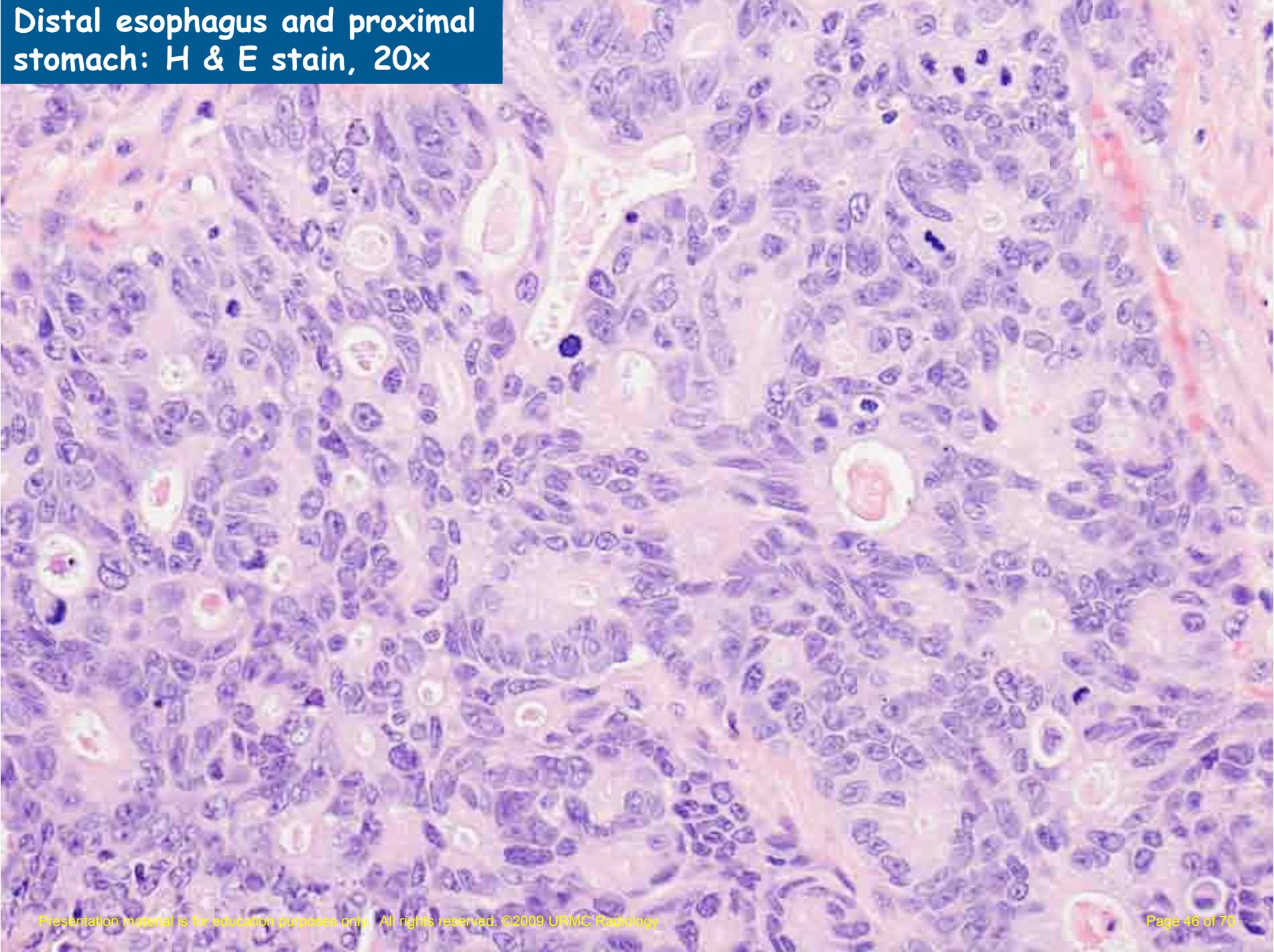
Distal esophagus and proximal stomach: H & E stain, 4x



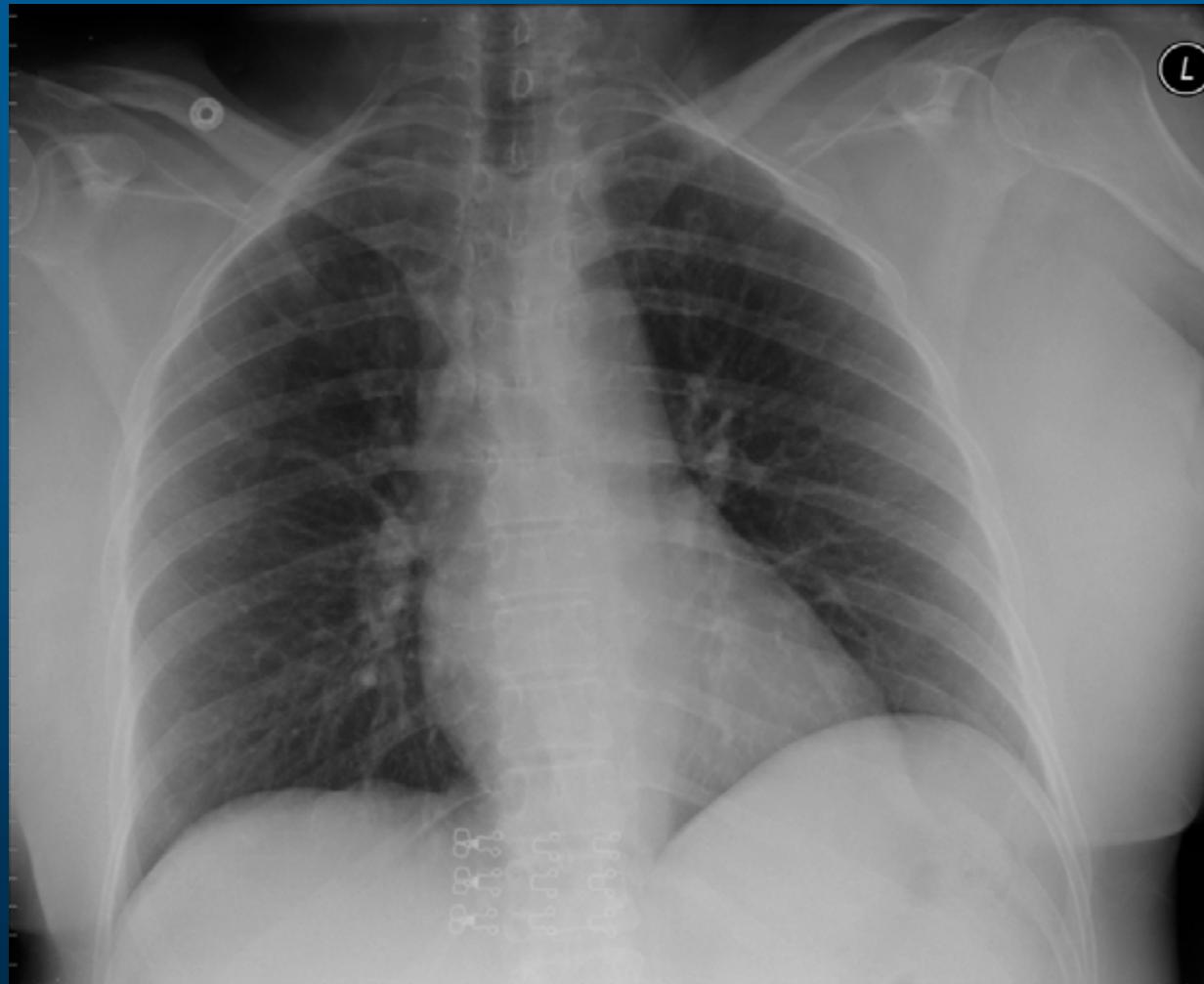
Distal esophagus and proximal stomach: H & E stain, 10x

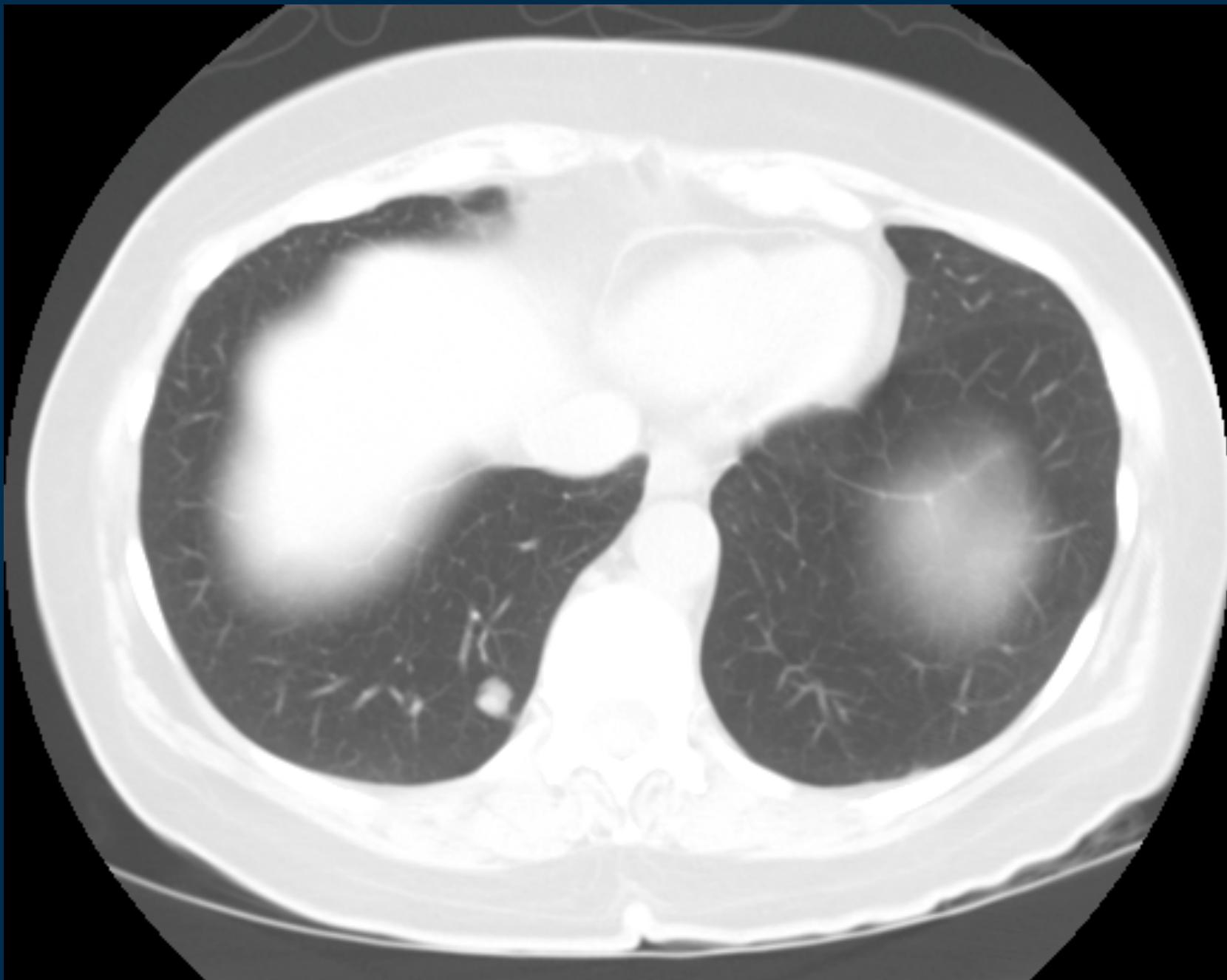


Distal esophagus and proximal stomach: H & E stain, 20x



Case 4: 64-year-old female with cough and shortness of breath





Findings:

CXR: "Negative"

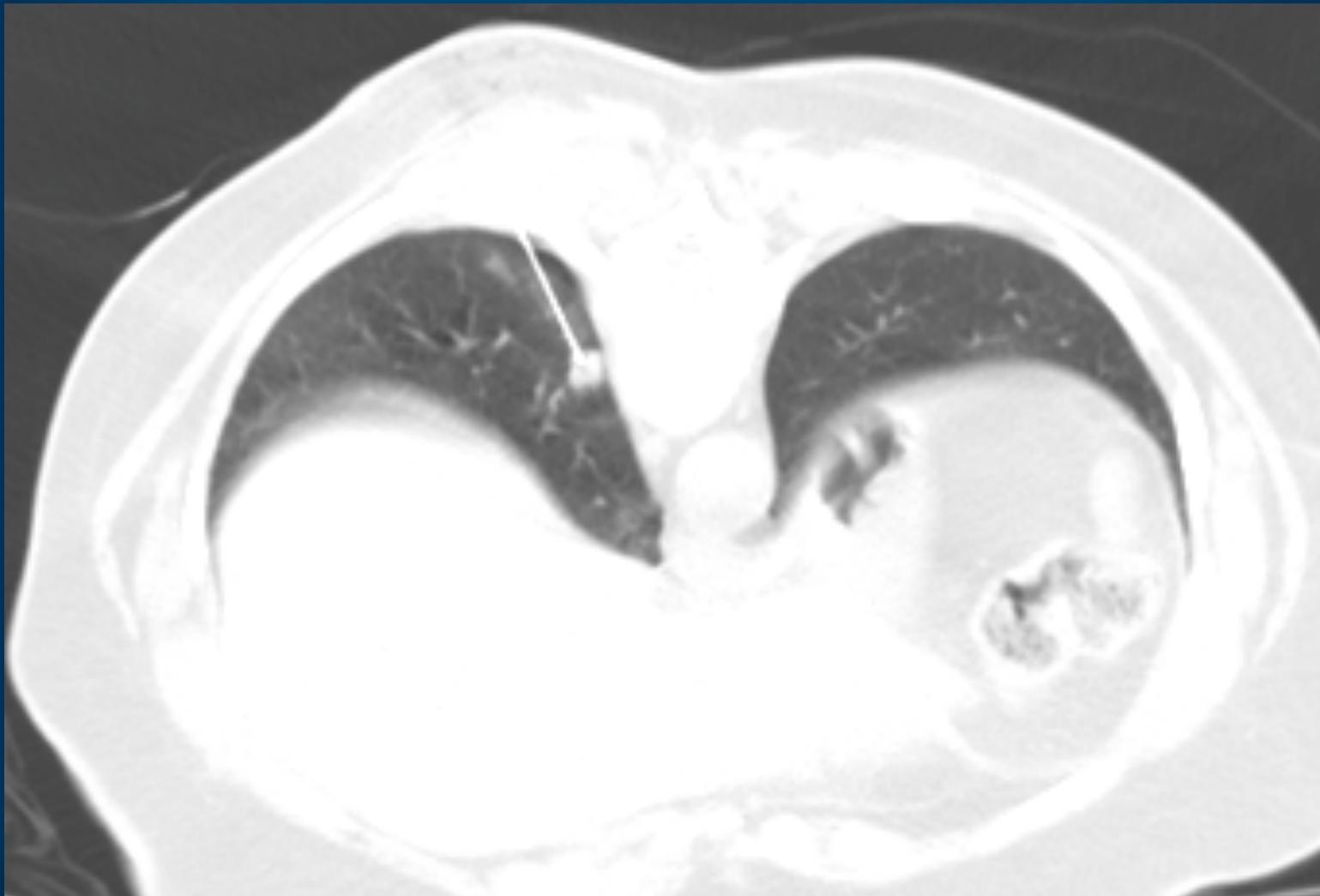
CT: Single right lower lobe pulmonary nodule

Differential Diagnosis:

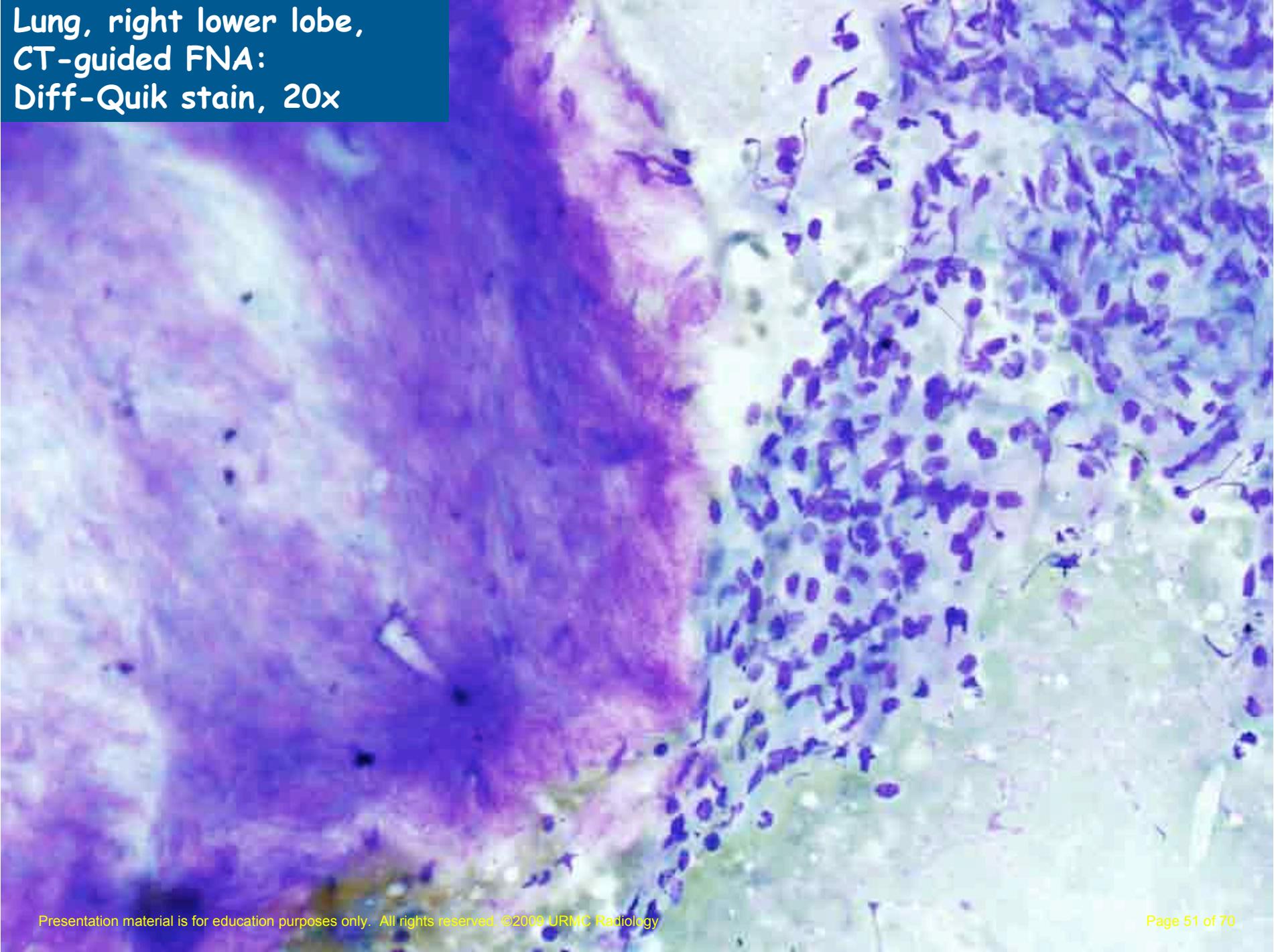
From: Winer-Muram HT.
The Solitary Pulmonary Nodule. Radiology
2006;239:34-49.

Type of Cause	Disease Entity
Neoplastic	
Malignant	Primary pulmonary carcinoma Adenocarcinoma, squamous cell carcinoma, bronchioloalveolar cell carcinoma, small cell carcinoma Primary pulmonary lymphoma Primary pulmonary carcinoid Solitary metastasis Melanoma, osteosarcoma, testicular cancer, breast, prostate, colon, renal cell carcinoma
Benign	Hamartoma, chondroma Arteriovenous malformation Fibroma Neural tumor (schwannoma, neurofibroma) Sclerosing hemangioma
Infectious	Granuloma <i>Mycobacterium tuberculosis</i> Fungal (<i>Histoplasmosis</i> , <i>Coccidioidomycosis</i> , <i>Blastomycosis</i> , <i>Cryptococcosis</i> , <i>Aspergillosis</i>) <i>Dirofilaria immitis</i> Bacterial (<i>Nocardia</i> , <i>Actinomycosis</i> , round pneumonia) Measles Abscess Septic embolus
Noninfectious	Sarcoidosis Lipoid pneumonia Amyloid Subpleural lymph nodule Rheumatoid arthritis Wegener granulomatosis Pulmonary scar Infarct
Congenital	Bronchogenic cyst Bronchial atresia with mucoid impaction Sequestration
Other	Skin nodule Rib fracture Pleural thickening, mass or fluid

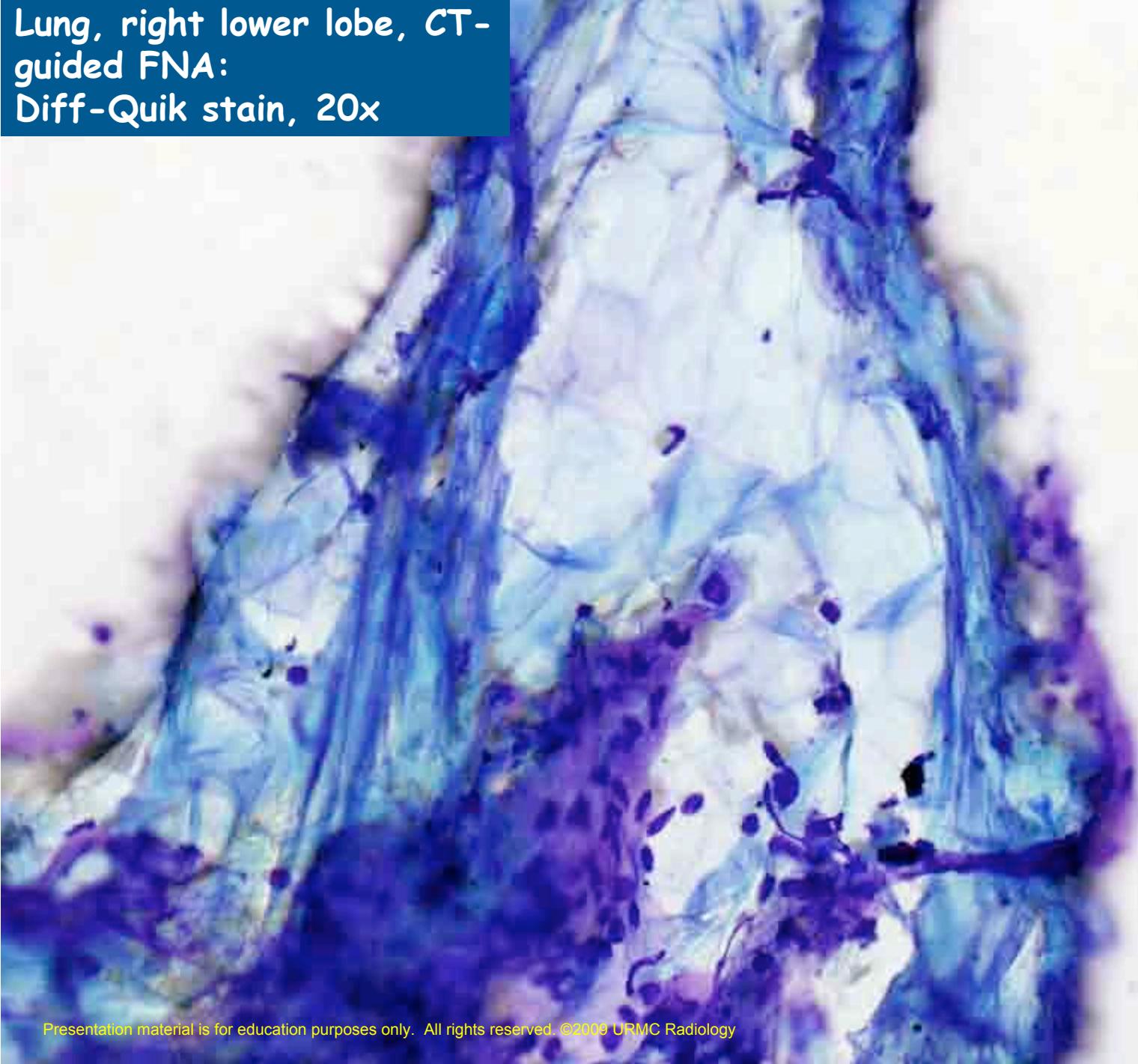
CT-guided Lung Biopsy



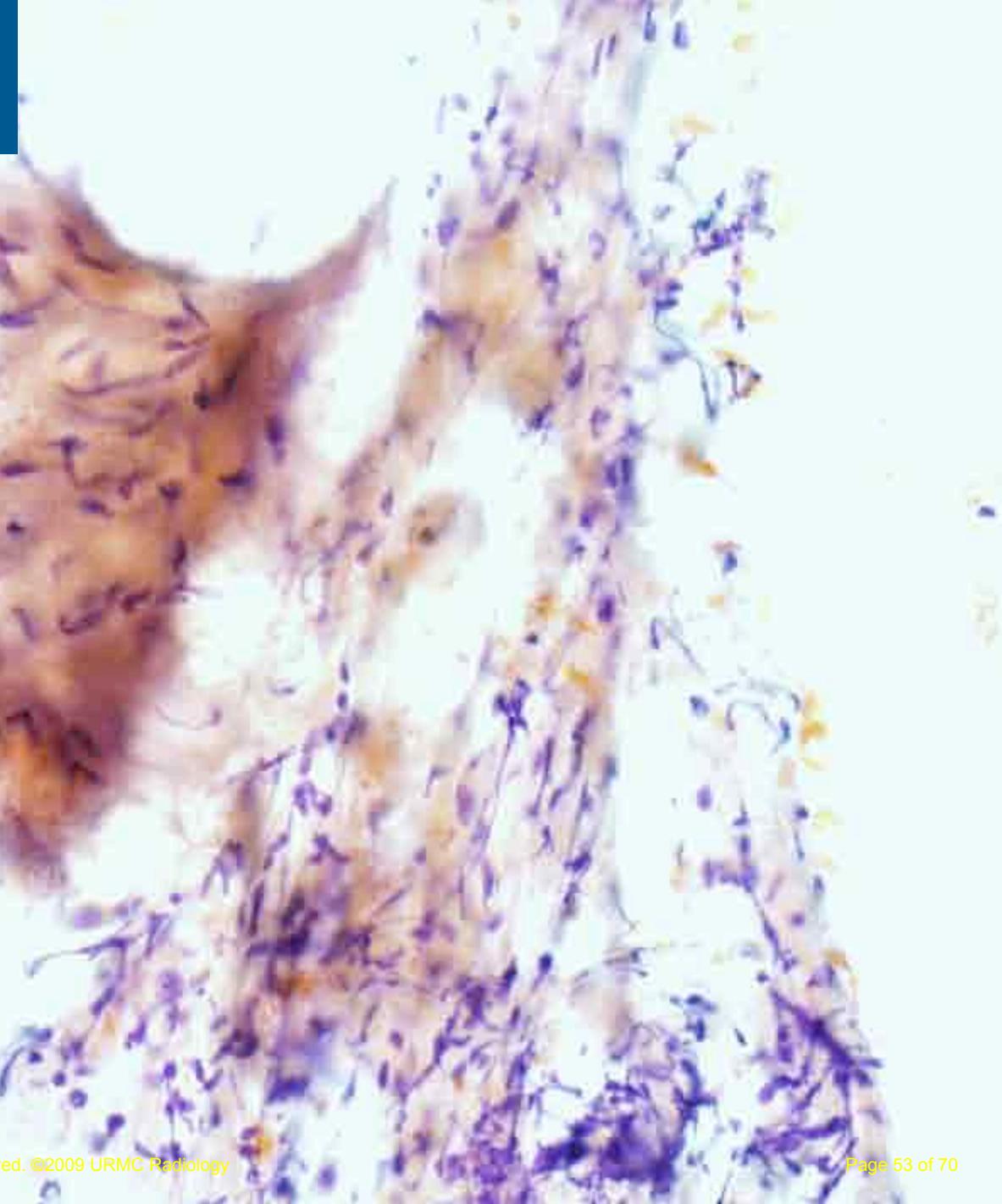
Lung, right lower lobe,
CT-guided FNA:
Diff-Quik stain, 20x



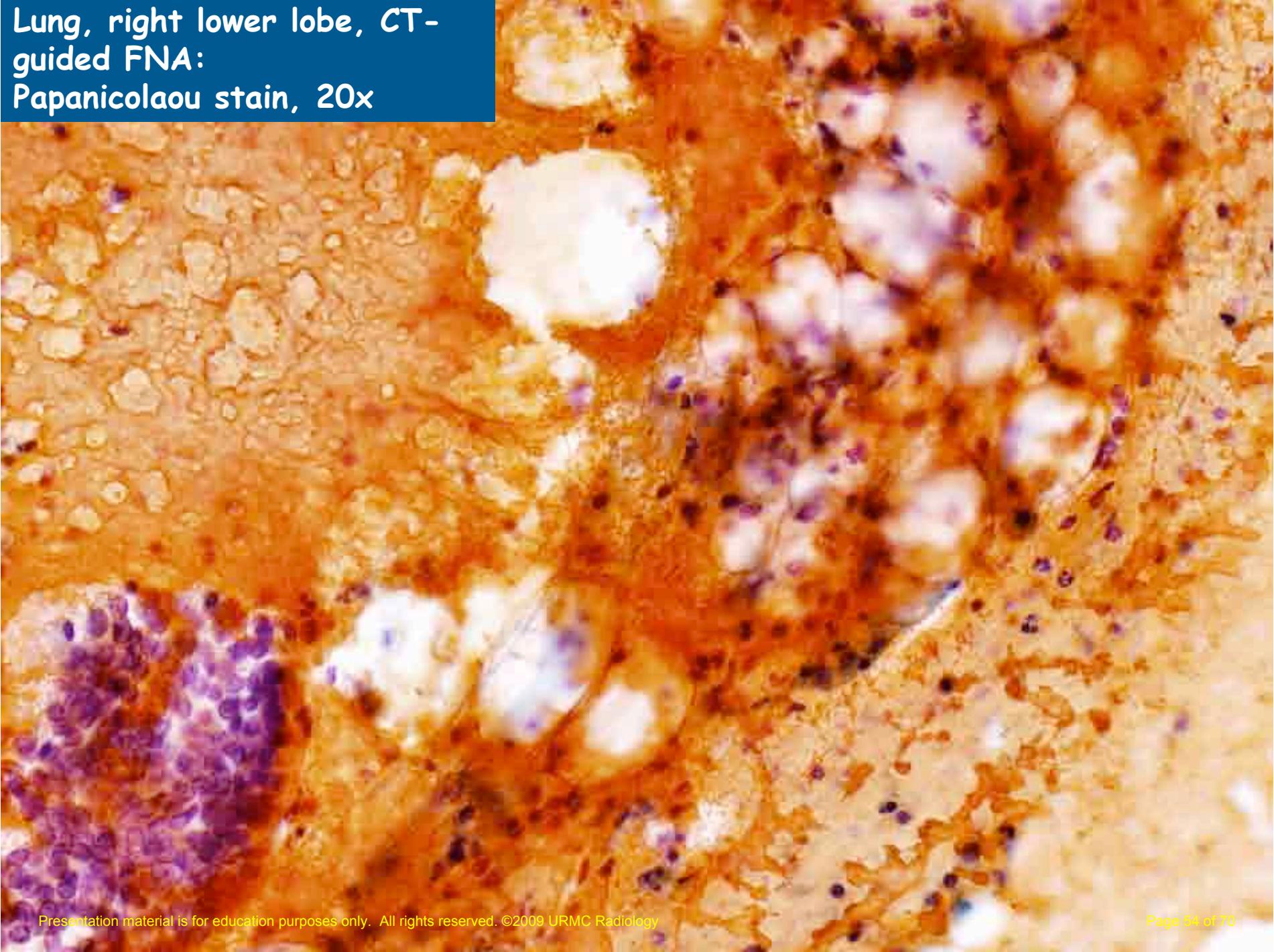
Lung, right lower lobe, CT-guided FNA:
Diff-Quik stain, 20x



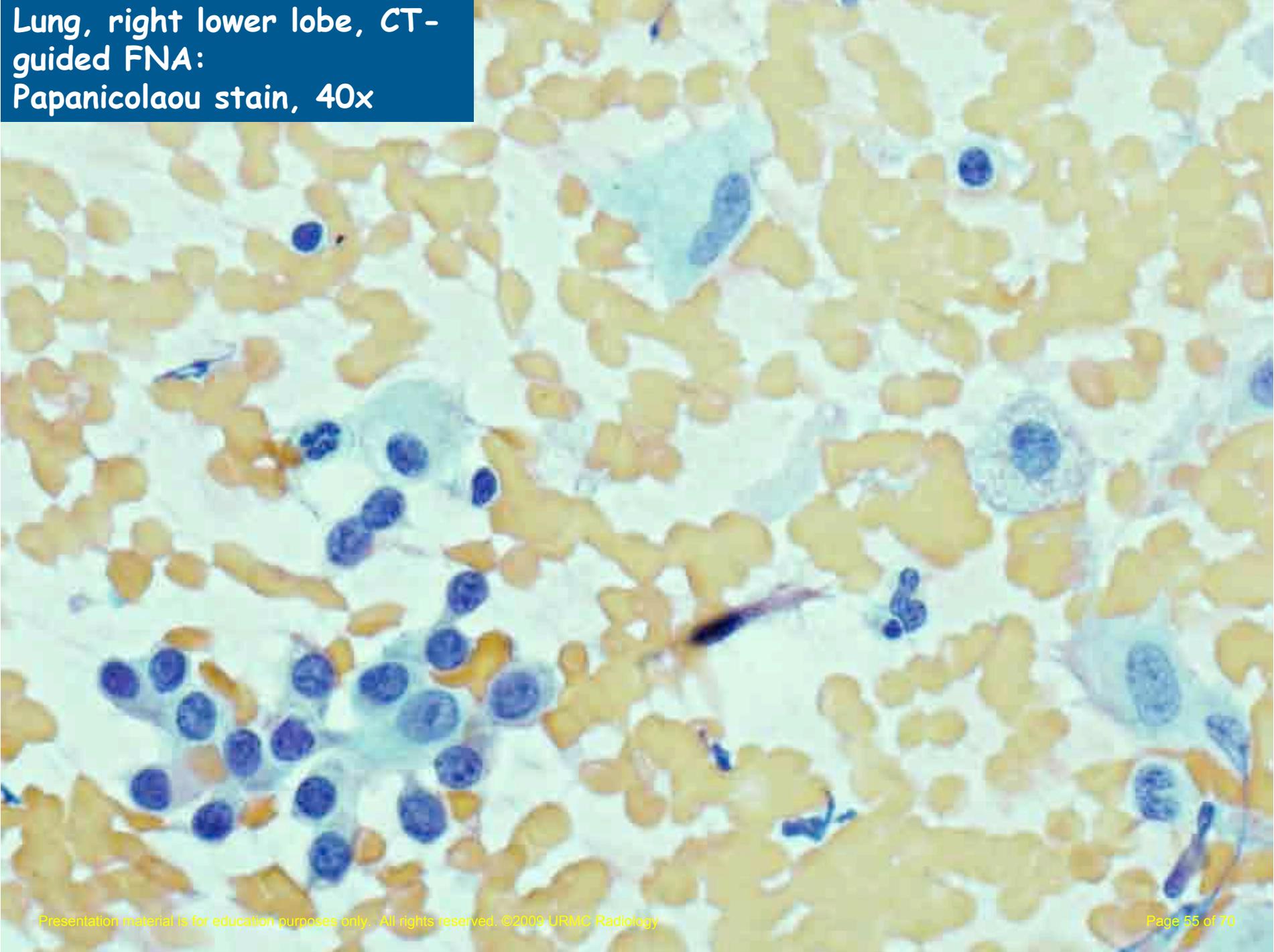
Lung, right lower lobe, CT-guided FNA:
Papanicolaou stain, 20x



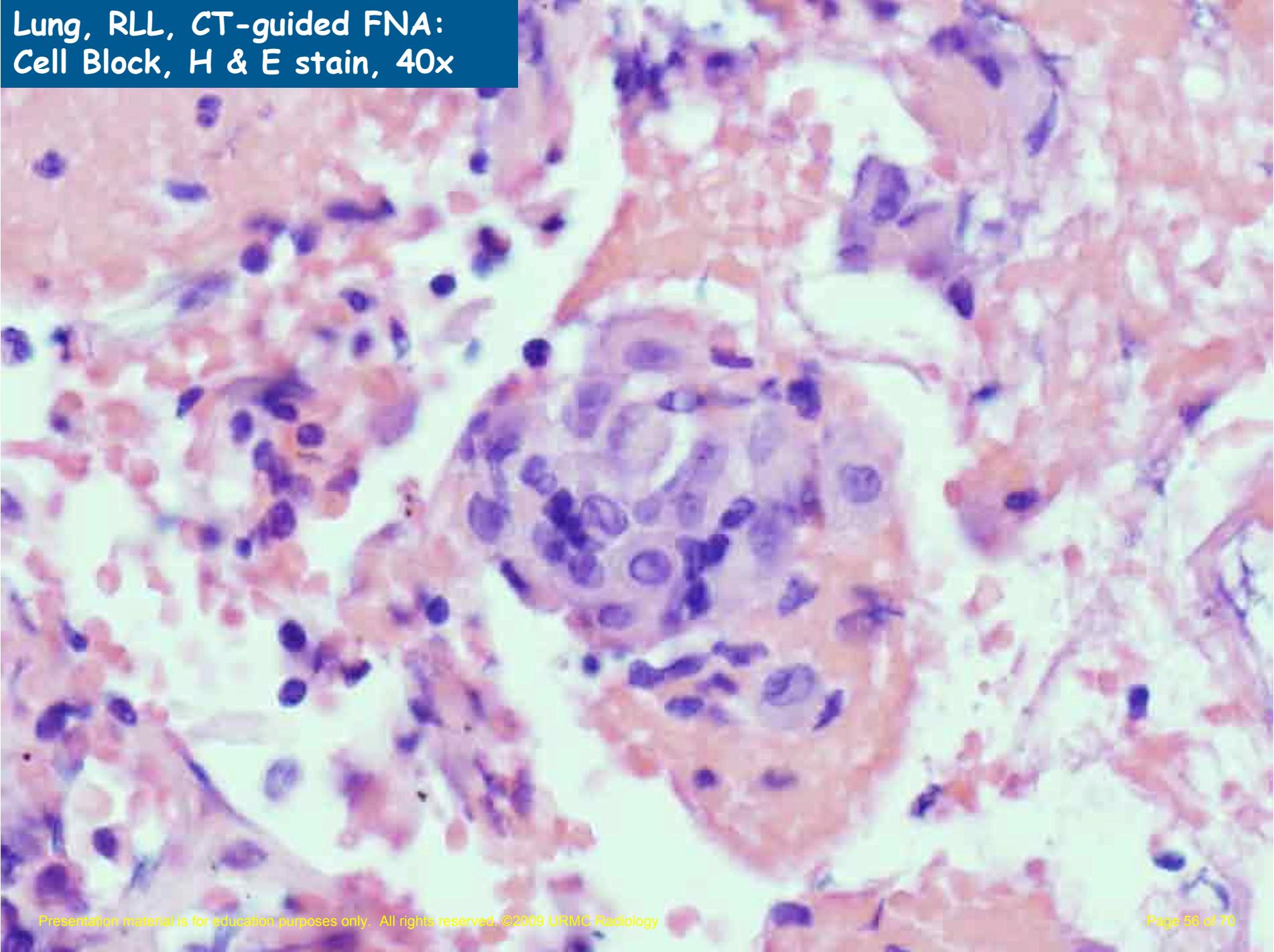
Lung, right lower lobe, CT-guided FNA:
Papanicolaou stain, 20x



Lung, right lower lobe, CT-guided FNA:
Papanicolaou stain, 40x



Lung, RLL, CT-guided FNA:
Cell Block, H & E stain, 40x



Lung, right lower lobe, CT-guided fine needle aspiration:

Benign epithelial cells, adipose tissue and fibromyxoid tissue fragments consistent with a hamartoma. Malignant tumor cells are not identified.

Cell block and cytologic preparations examined.

Case 5: 58-year-old female with left trochanteric bursitis and status post MVC several years before



Findings:

- Large osteolytic lesion involving the left iliac wing with areas of sclerosis
- Healing/healed fractures involving the inferior pubic rami bilaterally.

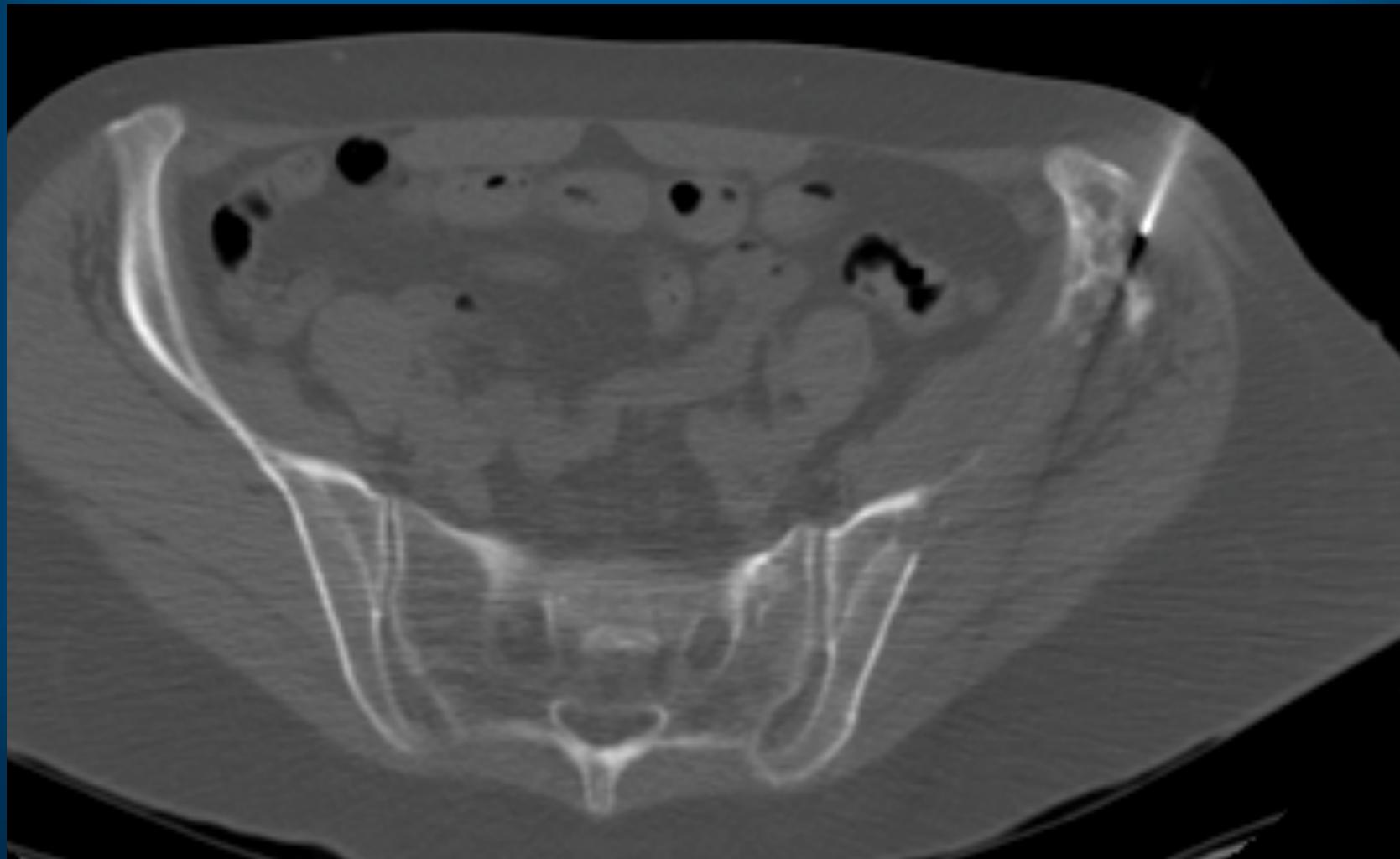
Differential Diagnosis:

- Metastatic Lesion
- Primary Bone Tumor
- Osteomyelitis

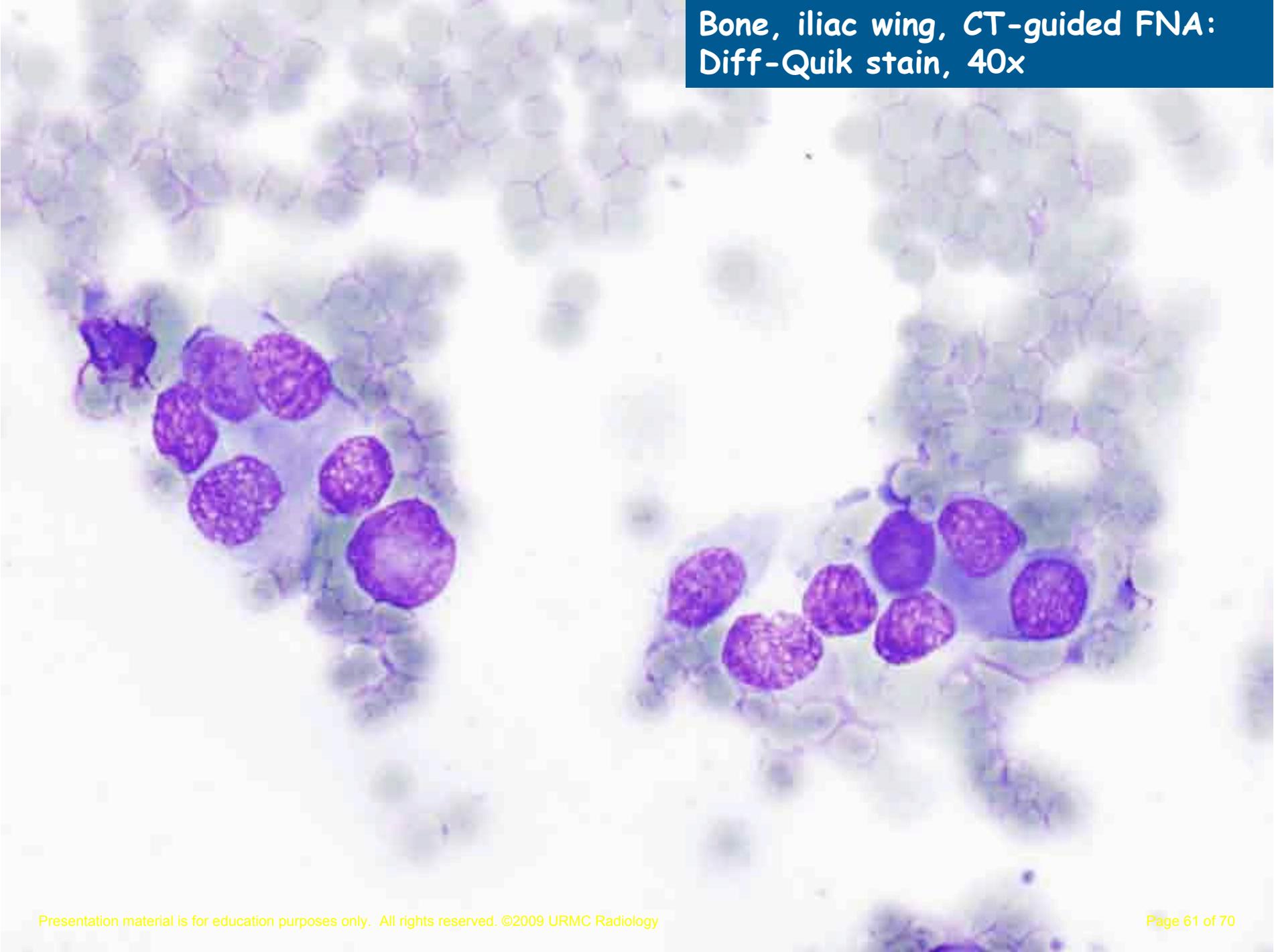
Aneurysmal bone cyst (eccentric)
Epidermoid inclusion cyst
Glomus tumor
Hemangioma (skull)
Chondromyxoid fibroma (eccentric)
Desmoplastic fibroma
Osteoblastoma
Giant cell tumor (eccentric)
Fibrosarcoma
Malignant fibrous histiocytoma
Chondrosarcoma
Osteosarcoma
Angiosarcoma
Plasmacytoma/multiple myeloma
Metastases (from kidney, thyroid, lung)
Hemophilic pseudotumor

From: Francis A. Burgener, Martti Kormano, Tomi Pudas. Differential diagnosis in conventional radiology. Thieme. 3rd Edition.
page 80.

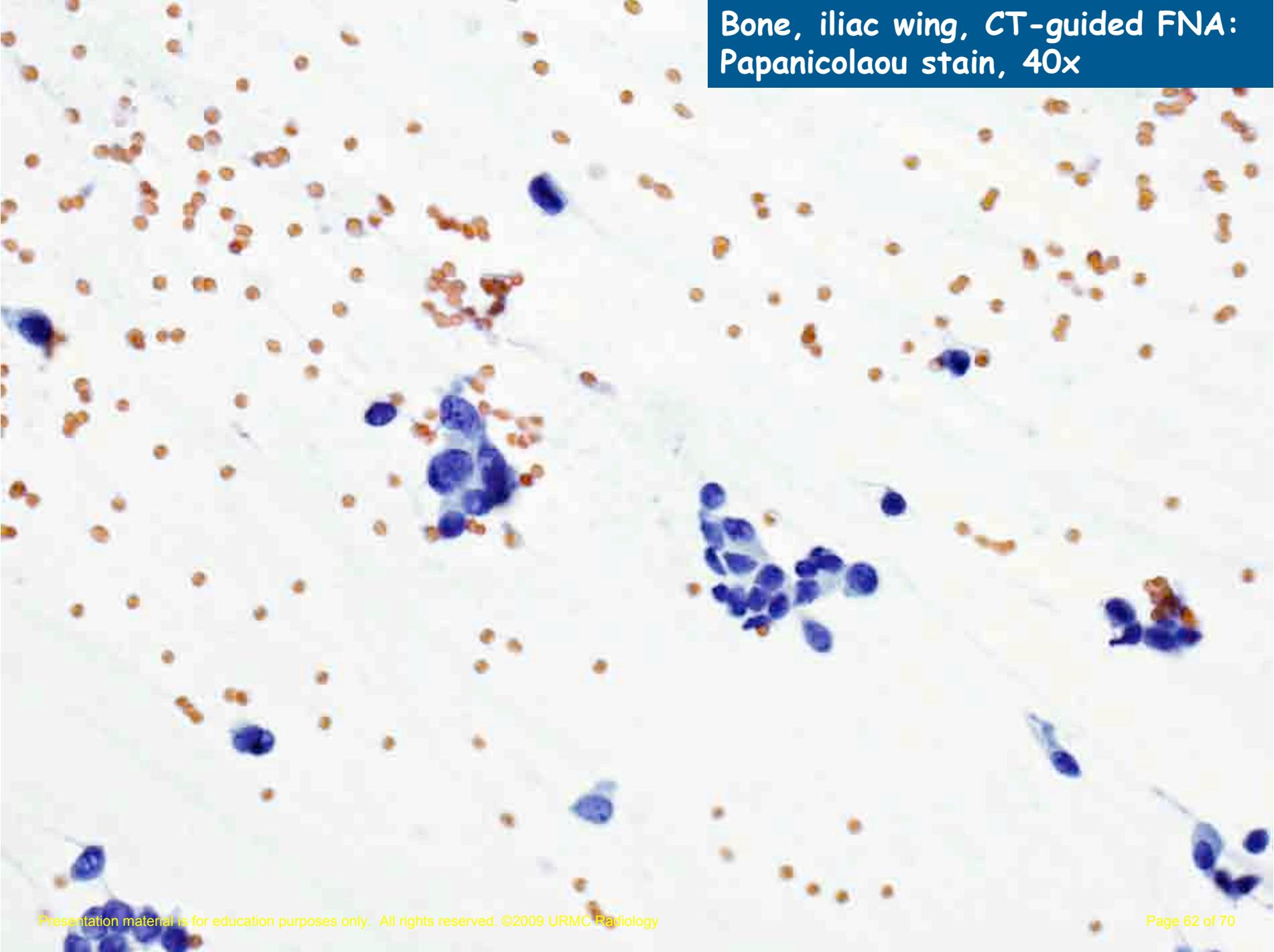
CT-guided Bone Biopsy



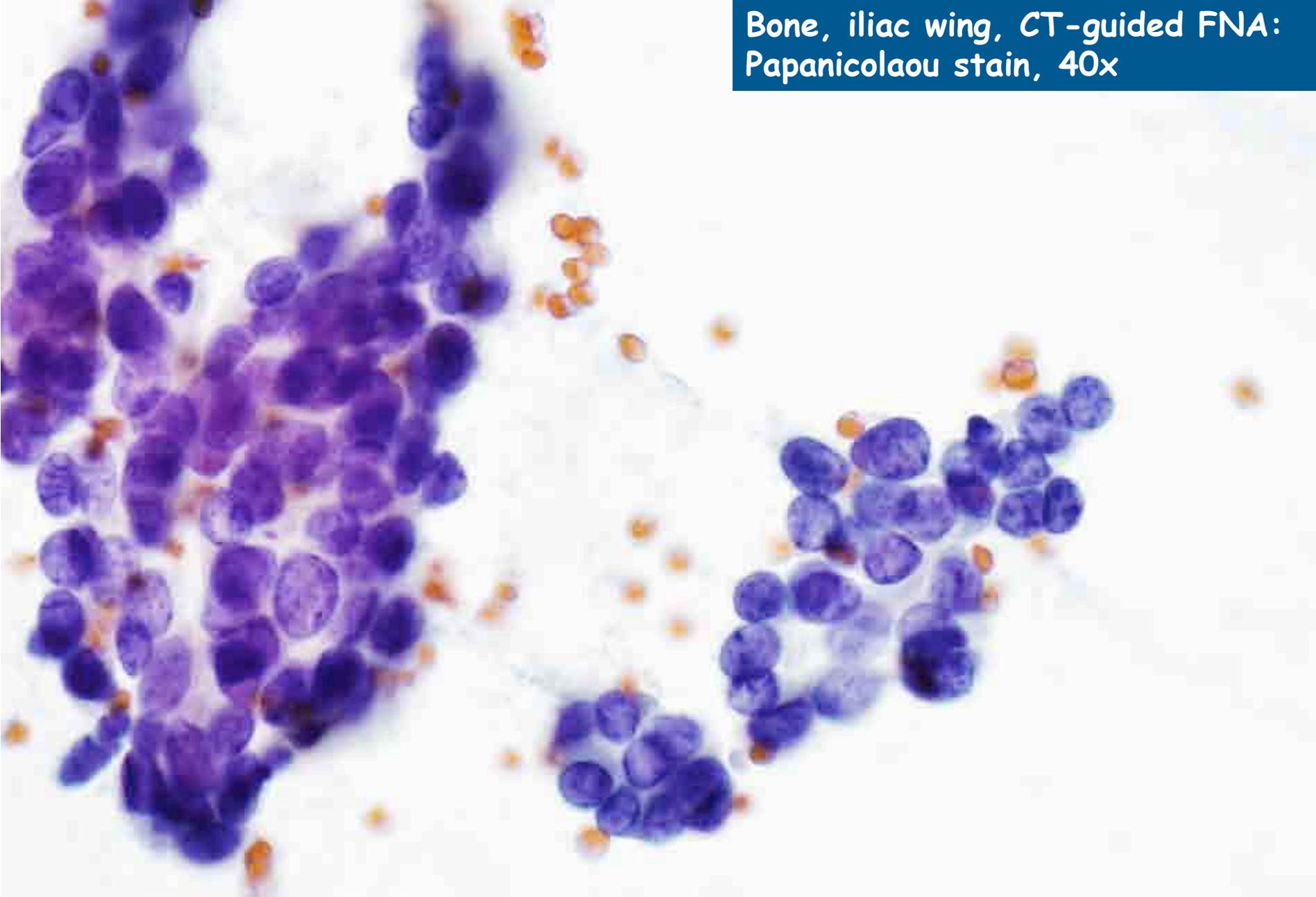
Bone, iliac wing, CT-guided FNA:
Diff-Quik stain, 40x



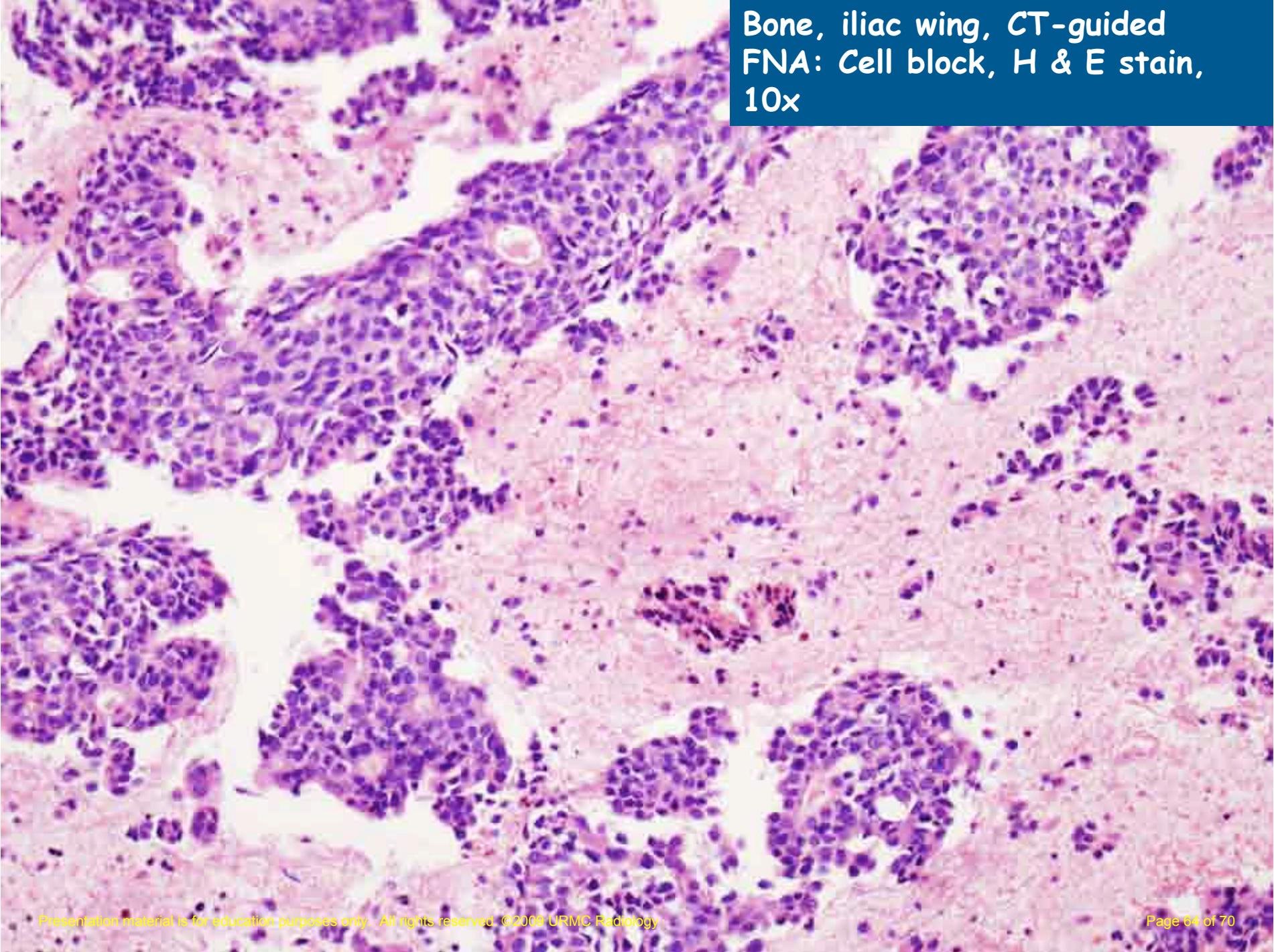
Bone, iliac wing, CT-guided FNA:
Papanicolaou stain, 40x



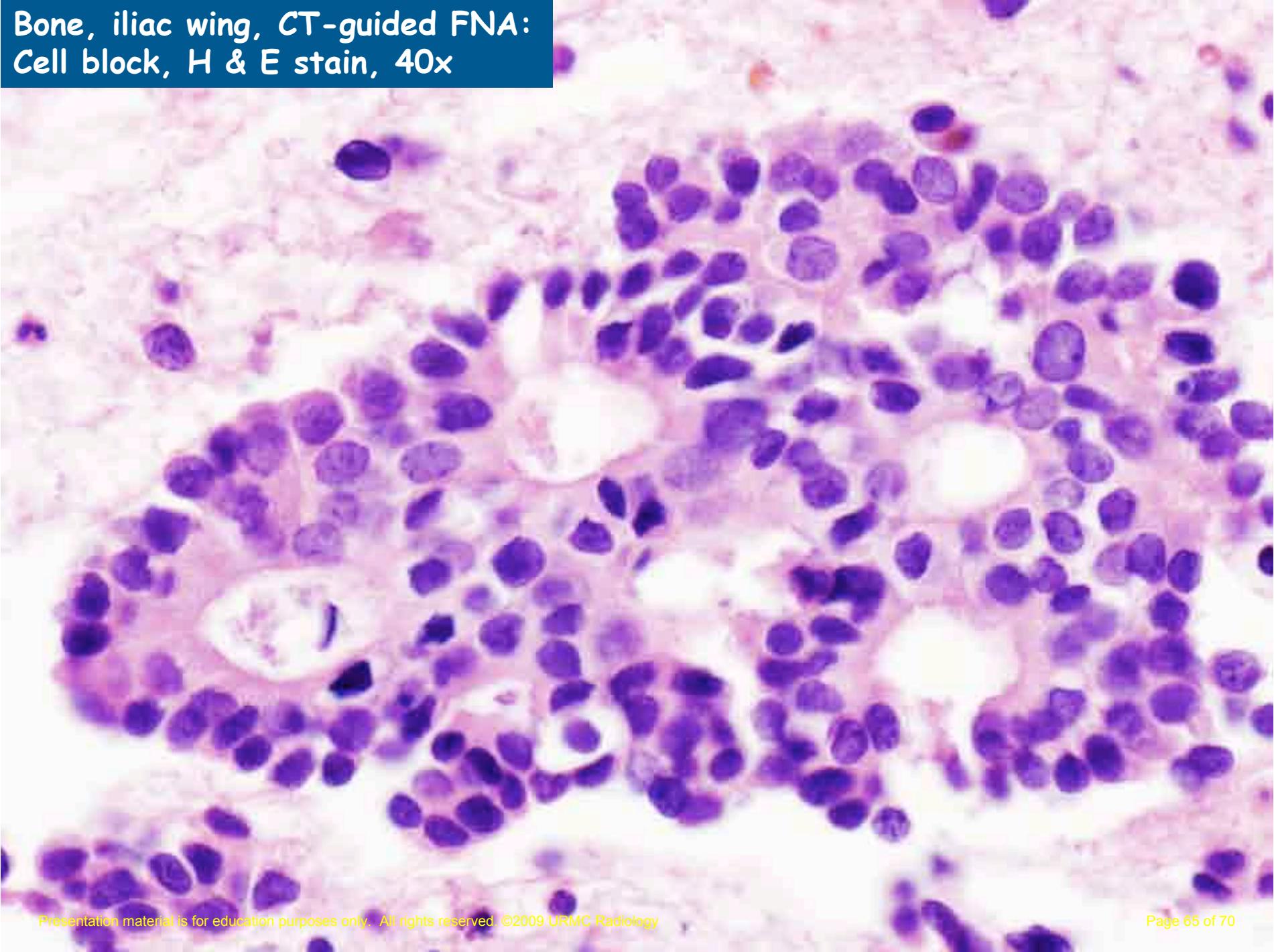
Bone, iliac wing, CT-guided FNA:
Papanicolaou stain, 40x



Bone, iliac wing, CT-guided
FNA: Cell block, H & E stain,
10x



Bone, iliac wing, CT-guided FNA:
Cell block, H & E stain, 40x



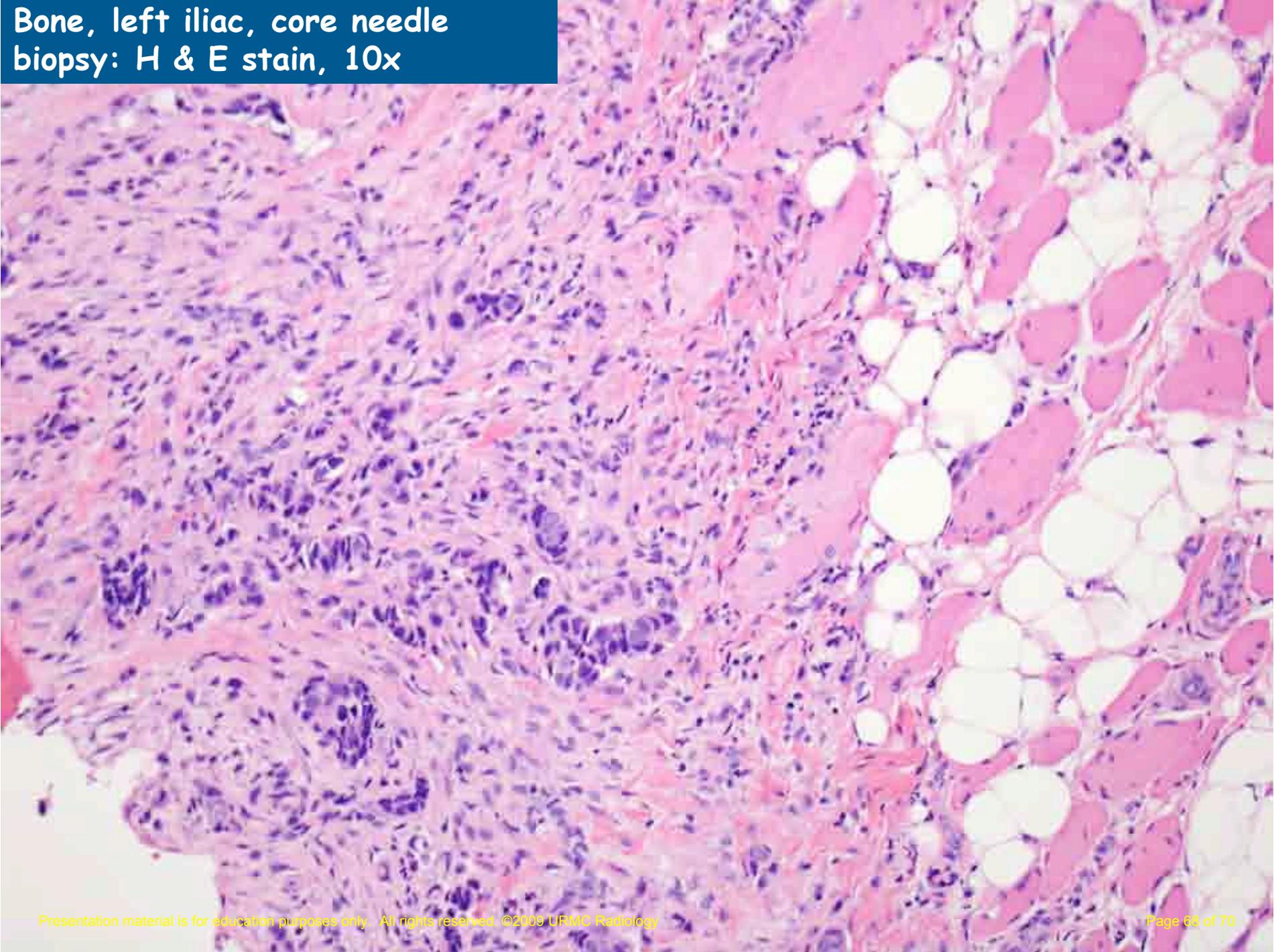
Bone, iliac wing, CT-guided fine needle aspiration:

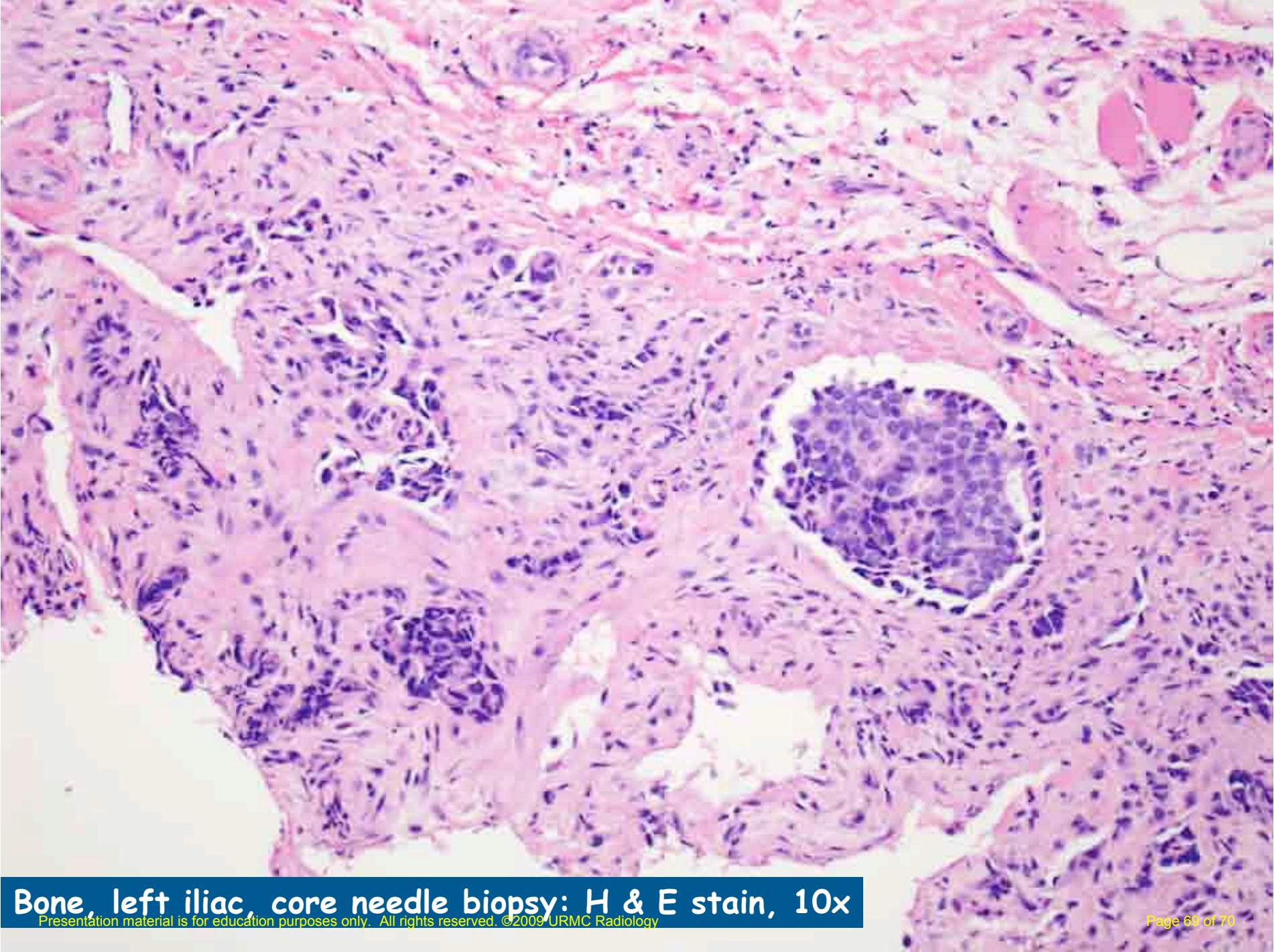
Malignant tumor cells present derived from adenocarcinoma.

Bone, left iliac, core needle biopsy:

Metastatic carcinoma, consistent with breast primary.

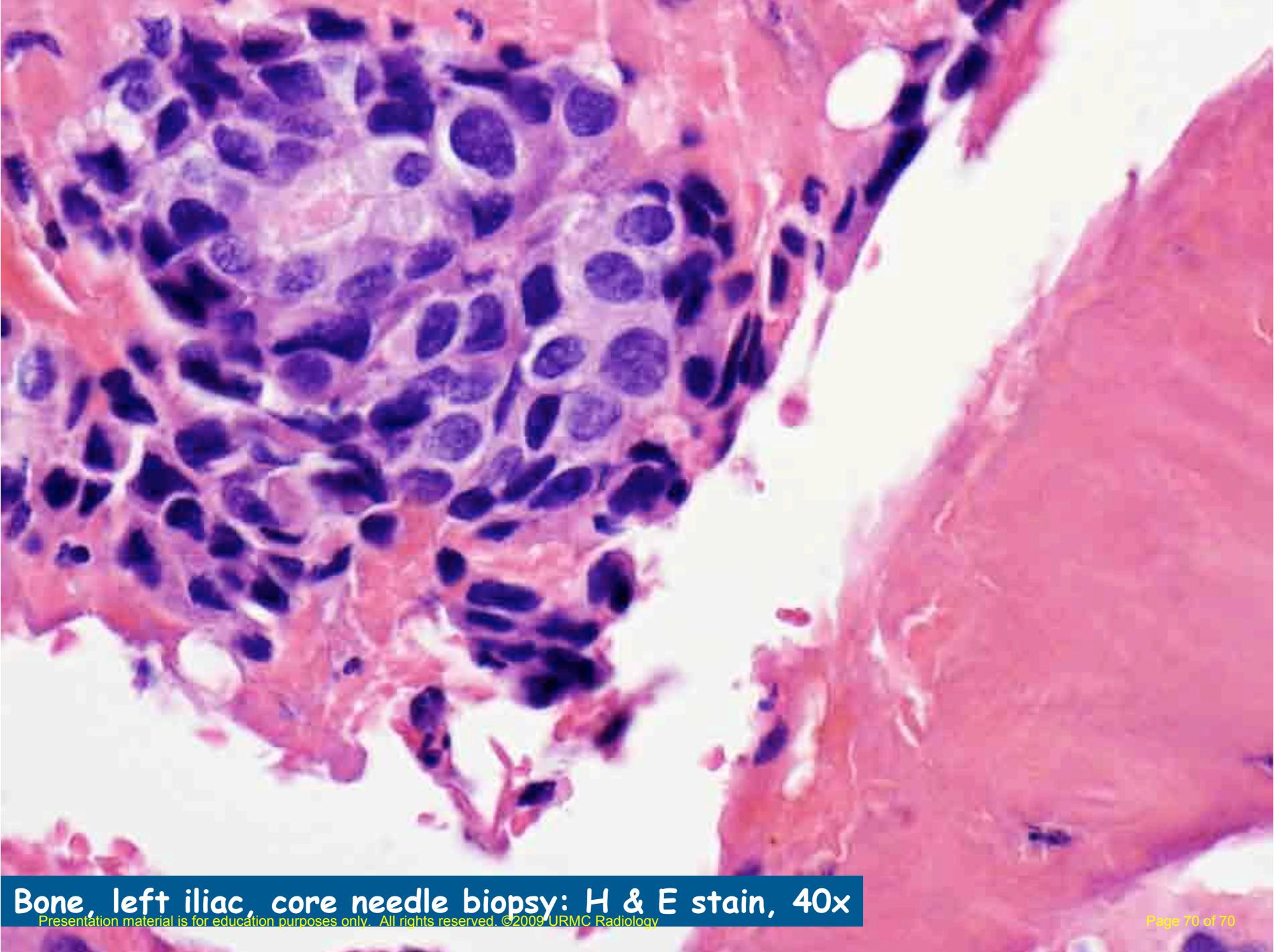
Bone, left iliac, core needle
biopsy: H & E stain, 10x





Bone, left iliac, core needle biopsy: H & E stain, 10x

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Bone, left iliac, core needle biopsy: H & E stain, 40x

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