"ENDOCRINE PATHOLOGY"

Study Cases, Subscription A

February 2001

California Tumor Tissue Registry
c/o: Department of Pathology and Human Anatomy
Loma Linda University School of Medicine
11021 Campus Avenue, AH 335
Loma Linda, California 92350
(909) 558-4788
FAX: (909) 558-0188
E-mail: cttr@linkline.com
Web page: www.cttr.org
Target audience: 
Practicing pathologists and pathology residents.

Goal: 
To acquaint the participant with the histologic features of a variety of benign and malignant neoplasms and tumor-like conditions.

Objectives: 
The participant will be able to recognize morphologic features of a variety of benign and malignant neoplasms and tumor-like conditions and relate those processes to pertinent references in the medical literature.

Educational methods and media: 
Review of representative glass slides with associated histories.
Feedback on consensus diagnoses from participating pathologists.
Listing of selected references from the medical literature.

Principal faculty: 
Weldon K. Bullock, MD 
Donald R. Chase, MD

CME Credit: 
Loma Linda University School of Medicine designates this continuing medical education activity for up to 2 hours of Category I of the Physician’s Recognition Award of the American Medical Association.
CME credit is offered for the subscription year only.

Accreditation: 
Loma Linda University School of Medicine is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to sponsor continuing medical education for physicians.
Contributor: Pamela Boswell, D.O.  
San Diego, CA  
Tissue from: Adrenal gland  
Accession #28591  

Case No. 1 - February 2001

Clinical Abstract:  
This 48 year old male presented with anemia and right flank pain. A CT scan revealed a right adrenal mass. His total urine metanephrine was 1.9 mg/24 hours (normal 0-1.2). Serum calcium, cortisol and ACTH and urine vanillylmandelic acid values were all normal.

Gross Pathology:  
The 4.9 x 2.8 x 2.1 cm gland was bisected to reveal a well-circumscribed, lobulated, tan-brown mass measuring 2.2 x 2.1 x 1.5 cm and weighing 12.0 grams. Focal hemorrhage and cystic degeneration were noted.

Contributor: LLUMC Pathology Group (dre)  
Loma Linda, CA  
Tissue from: Adrenal gland  
Accession #27988  

Case No. 2 - February 2001

Clinical Abstract:  
After repeated visits for shortness of breath and chest pain, which migrated down to the left upper abdominal quadrant, this 15-year-old female was found to have a mass near her spleen. The abdominal ultrasound showed a 10 x 10 cm vascular solid homogeneous mass.

Gross Pathology:  
A 360 gram, 11.5 x 7.5 x 6.5 cm well-circumscribed golden-brown firm mass replaced a portion of the adrenal gland.
Contributor: Thomas Heinz, M.D.  
Orange, CA  

Tissue from: Adrenal gland  
Accession #28648  

Clinical Abstract:  
During work-up for abdominal pain, this 37-year-old female was noted on ultrasound to have a right upper quadrant mass. A total right adrenalectomy was performed.

Gross Pathology:  
The 511 gram, 10.0 x 10.0 x 9.0 cm portion of adrenal gland was replaced by a rubbery firm tan to red tan mass.

Contributor: John Sacoolidge, M.D.  
Sylmar, CA  

Tissue from: Adrenal gland  
Accession #28721  

Clinical Abstract:  
This 55-year-old male was diagnosed with Cushing’s syndrome with hypertension of 180/110 and elevated free cortisol levels. A CT scan showed a 10.0 cm left adrenal mass.

Gross Pathology:  
This 287 gram, 14.0 x 6.5 x 4.0 cm adrenal mass varied from red-brown and hemorrhagic to golden yellow to orange-tan. Focal areas of hemorrhage and cystic degeneration were scattered throughout the mass.
Contributor: Pamela Boswell, D.O.  
San Diego, CA  

Tissue from: Adrenal gland  
Accession #28951  

Clinical Abstract:  
This 40-year-old male presented with bilateral hearing loss and cranial nerves III, VI and VII deficits. An MRI revealed multiple bilateral cranial nerve and ventricular subependymal nodules suspicious for schwannomas in the setting of neurofibromatosis, type II. Similar tumors were later identified in both adrenal glands.

Gross Pathology:  
The specimen consisted of a 740 gram black mass that replaced the left adrenal gland. It measured 1.0 x 10.0 x 9.0 cm. Sectioning revealed a homogeneous, firm, black parenchyma.

Contributor: Gilbert Gersenfish, M.D.  
National City, CA  

Tissue from: Retroperitoneum  
Accession #28836  

Clinical Abstract:  
A 21-year-old pregnant, female was found to have a large retroperitoneal mass, adjacent to the pancreas.

Gross Pathology:  
The 1,276 gram, 15.0 x 15.0 x 12.0 cm specimen consisted of an encapsulated mass with a somewhat myxoid and predominantly solid cut surface.
Contributor: K. Greg Peterson, M.D.
Sioux Falls, SD

Tissue from: Thyroid gland

Clinical Abstract:
This 69-year-old male complained of a left neck mass. A subtotal thyroidectomy was performed.

Gross Pathology:
The 91 gram, 7.0 x 5.0 x 4.0 cm oblong portion of thyroid was almost completely replaced by lobular tan brown mass with scattered delicate calcifications, leaving a thin rim of residual glistening thyroid tissue.

Contributor: Carlos Araoz, M.D.
Searcy, AZ

Tissue from: Thyroid gland

Clinical Abstract:
Unilateral thyroid enlargement brought this 70-year-old female to medical attention. Serum calcitonin (collected 24 hours post-operatively) was 11 pg/ml (normal < 4.7).

Gross Pathology:
The resected portion of thyroid contained a 4.0 cm diameter gray-yellow mass.

SPECIAL STUDIES (Outside Facility):
Calcitonin positive
Synaptophysin positive
Contributor: Mark Janssen, M.D.  
Anaheim, CA  

Tissue from: Thyroid gland  
Accession #27848  

Clinical Abstract:  
Because of a slowly growing right neck mass, this 72-year-old male underwent a total thyroidectomy.

Gross Pathology:  
The 71.0 gram, 8.0 x 6.0 x 3.0 cm specimen contained an 8 cm mass with a central necrotic cavity.

SPECIAL STUDIES (Outside Facility):  
Calcitonin negative

Contributor: Douglas A. Kahn, M.D.  
Sylmar, CA  

Tissue from: Thyroid gland  
Accession #27842  

Clinical Abstract:  
This 34-year-old female presented with a thyroid mass and underwent a total thyroidectomy.

Gross Pathology:  
Within the left lobe of thyroid was an 18 gram, 4.0 x 4.0 x 3.0 cm homogenous gray-tan, firm tumor with only a thin rim of brown thyroid parenchyma.
SUGGESTED READING (General Topics from Recent Literature):


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FILE DIAGNOSES

CTTR Subscription A February 2001

Case 1:
  Pheochromocytoma, adrenal gland
  T-93000, M-87000

Case 2:
  Adrenal cortical adenoma with cellular atypia ("atypical adenoma")
  T-93000, M-81400

Case 3:
  Pheochromocytoma, adrenal
  T-93000, M-87000

Case 4:
  Adrenal cortical carcinoma
  T-93000, M-83703

Case 5:
  Metastatic melanoma, adrenal
  T-93000, M-87203

Case 6:
  Solid pseudopapillary tumor with neuroendocrine differentiation
  T-Y4600, D-2040

Case 7:
  Minimally invasive Hurthle cell carcinoma, thyroid
  T-96000, M-82903

Case 8:
  Medullary carcinoma, thyroid
  T-96000, M-85103

Case 9:
  Hyalinizing trabecular carcinoma, thyroid
  T-96000, M-81903

Case 10:
  Papillary carcinoma, thyroid
  T-96000, M-80503
Bakersfield - Pheochromocytoma
Bay Area - Pheochromocytoma (3)
Hayward/Fremont - Pheochromocytoma
Loma Linda Residents - Pheochromocytoma (5); Adrenal medullary hyperplasia (2)
Long Beach - Pheochromocytoma (7)
Los Angeles UCLA Residents - Pheochromocytoma
Monterey (Community Hospital of Monterey Peninsula) - Pheochromocytoma
Monterey Park (Garfield Medical Center) - Pheochromocytoma
Mountain View (El Camino Pathology Group) - Pheochromocytoma
Oakland (Kaiser) - Pheochromocytoma (4)
Orange (UCI Medical Center) - Pheochromocytoma
Sacramento (UC Davis) - Pheochromocytoma (7)
San Diego (Naval Medical Center) - Pheochromocytoma
Santa Clara (Santa Clara Valley) - Pheochromocytoma (6)
Santa Rosa (Santa Rosa Memorial Hospital) - Pheochromocytoma (3)
Ventura (Unilab) - Pheochromocytoma (2)
Alaska (Anchorage) - Pheochromocytoma
Florida (Monroe Regional Medical Center) - Pheochromocytoma
Florida (Winter Haven Hospital) - Pheochromocytoma (2)
Florida (Tallahassee) - Pheochromocytoma (3)
Illinois (Burr Ridge) - Pheochromocytoma
Illinois (Cook County Hospital Residents) - Pheochromocytoma
Illinois (DuPage Pathology Associates) - Pheochromocytoma (2)
Indiana (Fort Wayne) - Pheochromocytoma, right adrenal gland
Kentucky (University of Louisville Residents) - Pheochromocytoma
Louisiana (Louisiana State University Medical Center) - Pheochromocytoma
Louisiana (Tulane University Medical Center) - Pheochromocytoma, adrenal
Maryland (Woodbine) - Pheochromocytoma (2)
Maryland (National Naval Medical Center) - Pheochromocytoma (9)
Maryland (University of Maryland) - Pheochromocytoma
Maryland (Johns Hopkins Hospital Residents) - Pheochromocytoma
Massachusetts (New England Medical Center Residents) - Pheochromocytoma
Massachusetts (Berkshire Medical Center) - Pheochromocytoma
Michigan (St. Joseph Mercy Hospital) - Pheochromocytoma
Michigan (Oakwood Hospital) - Pheochromocytoma
Nebraska (Creighton University School of Medicine) - Pheochromocytoma (non-functional)
New Jersey (Overlook Hospital) - Pheochromocytoma (3)
New York (SUNY Stony Brook University Hospital Residents) - Pheochromocytoma (10)
New York (Impath) - Pheochromocytoma
New York (Long Island Jewish Medical Center) - Pheochromocytoma
New York (DVAMC, Northport) - Pheochromocytoma
New York (Beth Israel Medical Center Residents) - Pheochromocytoma
North Carolina (Wake Forest University Residents) - Pheochromocytoma
Ohio (Worthington) - Pheochromocytoma
Oklahoma (South Tulsa) - Pheochromocytoma
Pennsylvania (Lehigh Valley Hospital) - Pheochromocytoma
Pennsylvania (Conemaugh Medical Center Residents) - Pheochromocytoma
Pennsylvania (Allegheny General Hospital) - Pheochromocytoma
Wisconsin (Meriter Health Services) - Pheochromocytoma
Australia (Royal Prince Alfred Hospital) - Pheochromocytoma

February 2001
**Case 1 - Diagnosis:**

**Pheochromocytoma, adrenal gland**

T-93000, M-87000

**Case 1 - References:**


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**Case 2, Accession No. 27988**

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- **Bakersfield** - Adrenal cortical carcinoma
- **Bay Area** - Adrenal cortical carcinoma (3)
- **Hayward/Fremont** - Adrenal cortical neoplasm, potentially malignant
- **Loma Linda Residents** - Adrenocortical carcinoma (7)
- **Long Beach** - Adrenal cortical adenoma (7)
- **Los Angeles UCLA Residents** - Adrenal cortical carcinoma
- **Monterey (Community Hospital of Monterey Peninsula)** - Adrenal cortical adenoma
- **Monterey Park (Garfield Medical Center)** - Adrenal cortical adenoma
- **Mountain View (El Camino Pathology Group)** - Adrenal cortical adenoma
- **Oakland (Kaiser)** - Adrenal cortical adenoma (4)
- **Orange (UCI Medical Center)** - Borderline cortical neoplasm in a (pediatric patient)
- **Sacramento (UC Davis)** - Adrenal cortical carcinoma (7)
- **San Diego (Naval Medical Center)** - Pediatric adrenal cortical neoplasm; favor NOS (8); Favor carcinoma (2); Favor adenoma (1)
- **Santa Clara (Santa Clara Valley)** - Adrenal cortical carcinoma (6)
- **Santa Rosa (Santa Rosa Memorial Hospital)** - Adrenocortical tumor—favor carcinoma based on weight (3)
- **Ventura (Unilab)** - Adrenal cortical carcinoma (2)
- **Alaska (Anchorage)** - Adrenal cortical adenoma
- **Florida (Monroe Regional Medical Center)** - Adrenal cortical carcinoma
- **Florida (Winter Haven Hospital)** - Adrenocortical adenoma (1); Adenoma (1)
- **Florida (Tallahassee)** - Adrenal adenoma (1); Adrenal cortical tumor of uncertain metastatic potential (2)
- **Illinois (Burr Ridge)** - Cortical adenoma
- **Illinois (Cook County Hospital Residents)** - Adrenal cortical adenoma
- **Illinois (DuPage Pathology Associates)** - Adrenal cortical adenoma (2)
- **Indiana (Fort Wayne)** - Adrenal cortical adenoma, left adrenal gland with cytologic atypia
- **Kentucky (University of Louisville Residents)** - Adrenal cortical carcinoma
- **Louisiana (Louisiana State University Medical Center)** - Adrenal cortical adenoma
- **Louisiana (Tulane University Medical Center)** - Pheochromocytoma, adrenal
Maryland (Woodbine) - Adrenal cortical carcinoma (2)

Maryland (National Naval Medical Center) - Adrenal adenoma (6); Adrenal neoplasm of uncertain malignant potential (3)

Maryland (University of Maryland) - Adrenocortical carcinoma

Maryland (Johns Hopkins Hospital Residents) - Adrenal cortical neoplasm, atypical adenoma vs. well-differentiated carcinoma (concerned about size of lesion)

Massachusetts (New England Medical Center Residents) - Adrenal cortical neoplasm, probably benign

Massachusetts (Berkshire Medical Center) - Adrenal cortical adenoma (2); vs. carcinoma (5)

Michigan (St. Joseph Mercy Hospital) - Adrenal cortical carcinoma

Michigan (Oakwood Hospital) - Adrenocortical adenoma

Nebraska (Creighton University School of Medicine) - Adenoma, cortical

New Jersey (Overlook Hospital) - Adrenal cortical neoplasm of uncertain biological potential (3)

New York (SUNY Stony Brook University Hospital Residents) - Adrenocortical carcinoma (10)

New York (Impath) - Adrenal adenoma

New York (Long Island Jewish Medical Center) - Adrenal cortical tumor, uncertain malignant potential

New York (DVAMC, Northport) - Adrenal cortical neoplasm favor carcinoma

New York (Beth Israel Medical Center Residents) - Adrenal cortical adenoma

North Carolina (Wake Forest University Residents) - Adrenal cortical adenoma

Ohio (Worthington) - Adrenal cortical carcinoma

Oklahoma (South Tulsa) - Adrenal cortical adenoma

Pennsylvania (Lehigh Valley Hospital) - Adrenal cortical neoplasm

Pennsylvania (Conemaugh Medical Center Residents) - Adrenal cortical carcinoma

Pennsylvania (Allegheny General Hospital) - Adrenal cortical carcinoma

Wisconsin (Merit Health Services) - Adrenocortical carcinoma

Australia (Royal Prince Alfred Hospital) - Adrenal cortical adenoma

Australia (North Queensland Pathology Group) - Adrenal cortical adenoma

Canada (Foothills Hospital) - Adrenocortical neoplasm, cannot exclude carcinoma

Japan (Kyoto Prefectural University of Medicine) - Cortical adenoma (4)

Japan (Kawasaki Medical School) - Adrenocortical carcinoma

Puerto Rico (Porto-Portugal Group) - Adrenal cortical carcinoma

Saudi Arabia (King Khalid University Hospital Study Group) - Adrenal cortical carcinoma

Singapore - Cortical carcinoma

CASE 2 - DIAGNOSIS:
Adrenal cortical adenoma with cellular atypia ("atypical adenoma")
T-93000, M-81400

CASE 2 - REFERENCES:


Case No. 3, Accession No. 28648

Bakersfield - Adrenal cortical carcinoma

Bay Area - Adrenal cortical carcinoma (3)

Hayward/Fremont - Pheochromocytoma

Loma Linda Residents - Pheochromocytoma (7)

Long Beach - Pheochromocytoma (7)

Los Angeles UCLA Residents - Pheochromocytoma

Monterey (Community Hospital of Monterey Peninsula) - Pheochromocytoma

Monterey Park (Garfield Medical Center) - Pheochromocytoma

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Mountain View (El Camino Pathology Group) - Pheochromocytoma
Oakland (Kaiser) - Pheochromocytoma (4)
Orange (UCI Medical Center) - Pheochromocytoma
Sacramento (UC Davis) - Pheochromocytoma (7)
San Diego (Naval Medical Center) - Pheochromocytoma
Santa Clara (Santa Clara Valley) - Pheochromocytoma (6)
Santa Rosa (Santa Rosa Memorial Hospital) - Pheochromocytoma
Ventura (Unilab) - Pheochromocytoma (2)
Alaska (Anchorage) - Pheochromocytoma
Florida (Monroe Regional Medical Center) - Paraganglioma
Florida (Winter Haven Hospital) - Pheochromocytoma (2)
Florida (Tallahassee) - Pheochromocytoma (3)
Illinois (Burr Ridge) - Adenoma with oncocytoid features
Illinois (Cook County Hospital Residents) - Pheochromocytoma
Illinois (DuPage Pathology Associates) - Pheochromocytoma (1); Adrenal cortical adenoma (vs. pheochromocytoma?) (1)
Indiana (Fort Wayne) - Pheochromocytoma, right adrenal gland
Kentucky (University of Louisville Residents) - Paraganglioma
Louisiana (Louisiana State University Medical Center) - Pheochromocytoma
Louisiana (Tulane University Medical Center) - Pheochromocytoma, adrenal
Maryland (Woodbine) - Pheochromocytoma (2)
Maryland (National Naval Medical Center) - Pheochromocytoma (9)
Maryland (University of Maryland) - Pheochromocytoma
Maryland (Johns Hopkins Hospital Residents) - Pheochromocytoma
Massachusetts (New England Medical Center Residents) - Pheochromocytoma
Massachusetts (Berkshire Medical Center) - Pheochromocytoma
Michigan (St. Joseph Mercy Hospital) - Pheochromocytoma
Michigan (Oakwood Hospital) - Pheochromocytoma
Nebraska (Creighton University School of Medicine) - Adrenal neoplasm (favor medullary origin)
New Jersey (Overlook Hospital) - Pheochromocytoma
New York (SUNY Stony Brook University Hospital Residents) - Pheochromocytoma (10)
New York (Impath) - Pheochromocytoma
New York (Long Island Jewish Medical Center) - Pheochromocytoma
New York (DVAMC, Northport) - Pheochromocytoma
New York (Beth Israel Medical Center Residents) - Adrenal cortical adenoma
North Carolina (Wake Forest University Residents) - Pheochromocytoma
Ohio (Worthington) - Adrenal cortical adenoma
Oklahoma (South Tulsa) - Pheochromocytoma
Pennsylvania (Lehigh Valley Hospital) - Pheochromocytoma
Pennsylvania (Conemaugh Medical Center Residents) - Pheochromocytoma
Pennsylvania (Allegheny General Hospital) - Pheochromocytoma
Wisconsin (Meriter Health Services) - Pheochromocytoma (probably malignant)
Australia (Royal Prince Alfred Hospital) - Pheochromocytoma
Australia (North Queensland Pathology Group) - Pheochromocytoma
Canada (Foothills Hospital) - Pheochromocytoma
Japan (Kyoto Prefectural University of Medicine) - Pheochromocytoma (2); Malignant pheochromocytoma (1); Glomerulosa cell adenoma (1)
Japan (Kawasaki Medical School) - Pheochromocytoma
Puerto Rico (Porto-Portugal Group) - Pheochromocytoma
Saudi Arabia (King Khalid University Hospital Study Group) - Pheochromocytoma
Singapore - Pheochromocytoma
Case No. 4, Accession No. 28721

February 2001

Bakersfield - Adrenal cortical carcinoma
Bay Area - Adrenal cortical carcinoma (3)
Hayward/Fremont - Adrenal cortical carcinoma (3); Adrenal adenoma (3)
Loma Linda Residents - Adrenocortical carcinoma (6); Nodular cortical hyperplasia (1)
Long Beach - Adrenal cortical carcinoma (7)
Los Angeles UCLA Residents - Adrenal cortical carcinoma
Monterey (Community Hospital of Monterey Peninsula) - Adrenal cortical carcinoma
Monterey Park (Garfield Medical Center) - Adrenal cortical adenoma
Mountain View (El Camino Pathology Group) - Adrenal cortical adenoma
Oakland (Kaiser) - Adrenal cortical adenoma (4)
Orange (UCI Medical Center) - Adrenal cortical carcinoma
Sacramento (UC Davis) - Adrenal cortical carcinoma (7)
San Diego (Naval Medical Center) - Adrenal cortical carcinoma
Santa Clara (Santa Clara Valley) - Adrenal cortical carcinoma (6)
Santa Rosa (Santa Rosa Memorial Hospital) - Adrenocortical carcinoma (3)
Ventura (Unilab) - Adrenal cortical carcinoma
Florida (Monroe Regional Medical Center) - Adrenal cortical adenoma
Florida (Winter Haven Hospital) - Adrenocortical carcinoma (2)
Florida (Tallahassee) - Adrenal adenoma (1); Adrenal cortical tumor of undetermined metastasis potential (?) (2)
Illinois (Burr Ridge) - Adenoma with Cushing’s syndrome
Illinois (Cook County Hospital Residents) - Adrenal cortical carcinoma vs. adenoma
Illinois (DuPage Pathology Associates) - Adrenal cortical adenoma (2)
Indiana (Fort Wayne) - Adrenal cortical adenoma, left adrenal gland
Kentucky (Univerisity of Louisville Residents) - Adrenal cortical carcinoma
Louisiana (Louisiana State University Medical Center) - Nodular hyperplasia, adrenal
Louisiana (Tulane University Medical Center) - Adrenal cortical carcinoma
Maryland (Woodbine) - Adrenal cortical carcinoma (2)
Maryland (National Naval Medical Center) - Adrenal cortical carcinoma (8); Adrenal cortical neoplasm of uncertain malignant potential (1)
Maryland (University of Maryland) - Adrenocortical carcinoma
Maryland (Johns Hopkins Hospital Residents) - Adrenal cortical carcinoma with vascular invasion vs. metastatic renal cell carcinoma, would stain for EMA, cytokeratin
Massachusetts (New England Medical Center Residents) - Adrenal cortical neoplasm, probably malignant
Massachusetts (Berkshire Medical Center) - Adrenocortical carcinoma
Michigan (St. Joseph Mercy Hospital) - Adrenal cortical carcinoma
Michigan (Oakwood Hospital) - Adrenocortical adenoma
Nebraska (Creighton University School of Medicine) - Adenoma, cortical
New Jersey (Overlook Hospital) - Adrenal cortical neoplasm of uncertain biological potential (3)
New York (SUNY Stony Brook University Hospital Residents) - Adrenocortical carcinoma (functional per history) (10)
New York (Impath) - Adrenal cortical carcinoma
CASE 4 - DIAGNOSIS:

Adrenocortical carcinoma
T-93000, M-83703

CASE 4 - REFERENCES:


Case No. 5, Accession No. 28951 

Bakersfield - Metastatic melanoma
Bay Area - Pheochromocytoma (? composite type) (3)
Hayward/Fremont - Pigmented pheochromocytoma (Gorlin syndrome)
Loma Linda Residents - Melanoma (7)
Long Beach - Malignant melanoma (7)
Los Angeles UCLA Residents - Pheochromocytoma
Monterey (Community Hospital of Monterey Peninsula) - Melanoma
Monterey Park (Garfield Medical Center) - Malignant melanoma
Mountain View (El Camino Pathology Group) - Metastatic melanoma
Oakland (Kaiser) - Adrenocortical carcinoma (4)
Orange (UCI Medical Center) - (no answer)
Sacramento (UC Davis) - Malignant peripheral nerve sheath tumor (7)
San Diego (Naval Medical Center) - Metastatic malignant melanoma
Santa Clara (Santa Clara Valley) - Melanoma (6)
Santa Rosa (Santa Rosa Memorial Hospital) - Malignant melanoma (3)
Ventura (Unilab) - Malignant melanotic Schwannoma (2)
Alaska (Anchorage) - Malignant melanoma
Florida (Monroe Regional Medical Center) - Melanoma vs. pigmented epithelioid Schwannoma

February 2001
Florida (Winter Haven Hospital) - Metastatic melanoma (1); Primary pigmented nodular adrenal disease (1)
Florida (Tallahassee) - Melanotic Schwannoma (3)
Illinois (Burr Ridge) - Black adenoma
Illinois (Cook County Hospital Residents) - Pigmented pheochromocytoma vs. melanoma
Illinois (DuPage Pathology Associates) - Malignant melanoma (2)
Indiana (Fort Wayne) - Pigmented epithelioid Schwannoma, left adrenal gland
Kentucky (University of Louisville Residents) - Melanotic pheochromocytoma
Louisiana (Louisiana State University Medical Center) - Favor melanoma over pigmented pheochromocytoma
Louisiana (Tulane University Medical Center) - Primary malignant melanoma, adrenal
Maryland (Woodbine) - Melanoma (2)
Maryland (National Naval Medical Center) - Metastatic melanoma (8); Melanocytic Schwannoma (1)
Maryland (University of Maryland) - Melanotic Schwannoma
Maryland (Johns Hopkins Hospital Residents) - Favor malignant melanoma (would stain for HMB45 and S100)
Massachusetts (New England Medical Center Residents) - Malignant melanoma
Massachusetts (Berkshire Medical Center) - Pigmented pheochromocytoma (3); vs. black adenoma (2); vs. melanotic Schwannoma (2)
Michigan (St. Joseph Mercy Hospital) - Melanoma
Michigan (Oakwood Hospital) - Necrotic tumor (? ancient Schwannoma)
Nebraska (Creighton University School of Medicine) - Pigmented malignant Schwannoma
New Jersey (Overlook Hospital) - Pigmented pheochromocytoma (3)
New York (SUNY Stony Brook University Hospital Residents) - Black adrenocortical adenoma (10)
New York (Impath) - Melanoma vs. melanotic pheochromocytoma
New York (Long Island Jewish Medical Center) - Melanotic Schwannoma
New York (DVAMC, Northport) - Black adenoma
New York (Beth Israel Medical Center Residents) - Pigmented adrenocortical adenoma
North Carolina (Wake Forest University Residents) - Melanotic pheochromocytoma associated with neurofibromatosis II
Ohio (Worthington) - Malignant melanotic Schwannoma
Oklahoma (South Tulsa) - Malignant melanotic Schwannoma
Pennsylvania (Lehigh Valley Hospital) - Metastatic melanoma
Pennsylvania (Conemaugh Medical Center Residents) - Primary pigmented nodular adrenocortical disease
Pennsylvania (Allegheny General Hospital) - Melanocytic Schwannoma
Wisconsin (Meriter Health Services) - Melanoma
Australia (Royal Prince Alfred Hospital) - Unable to make definite diagnosis—Differential diagnosis—Adrenal cortical carcinoma, metastatic melanoma
Australia (North Queensland Pathology Group) - Metastatic melanoma
Canada (Foothills Hospital) - Melanoma
Japan (Kyoto Prefectural University of Medicine) - Pheochromocytoma (1); Ganglioneuroblastoma (1); Mixed neuroendocrine-neural tumor (1); Malignant melanoma (1)
Japan (Kawasaki Medical School) - Malignant melanoma
Puerto Rico (Porto-Portuguese Group) - Epithelioid schwannoma-malignant (pigmented) – what is the connection to neurofibromatosis?
Saudi Arabia (King Khalid University Hospital Study Group) - Pigmented pheochromocytoma
Singapore - Melanoma

CASE 5 - DIAGNOSIS:
Metastatic melanoma, adrenal
(Note: The patient subsequently expired. There was extensive intra-cranial involvement. Tumor also involved both adrenals, a peri-hilar lymph node and numerous sites on the peritoneum. No primary cutaneous or mucosal site was identified.)
T-93000, M-87203

CASE 5 - REFERENCES:
Case No. 6, Accession No. 28836

February 2001

Bakersfield - Neuroendocrine tumor (islet cell tumor or carcinoid)
Bay Area - Solid and papillary (?) pseudopapillary epithelial neoplasm (2); Neuroendocrine tumor, NOS (1)
Hayward/Fremont - Neuroendocrine carcinoma, NOC
Loma Linda Residents - Paraganglioma (extra-adrenal pheochromocytoma) (5); Malignant pancreatic endocrine neoplasm (2)
Long Beach - Paraganglioma (7)
Los Angeles UCLA Residents - Neuroendocrine carcinoma
Monterey (Community Hospital of Monterey Peninsula) - Adrenal cortical carcinoma
Monterey Park (Garfield Medical Center) - Adrenal cortical tumor
Mountain View (El Camino Pathology Group) - Solid cystic papillary epithelial neoplasm of pancreas
Oakland (Kaiser) - Paraganglioma (3); Solid and papillary tumor of pancreas (1)
Orange (UCI Medical Center) - Pseudopapillary neoplasm of pancreas
Sacramento (UC Davis) - Paraganglioma (7)
San Diego (Naval Medical Center) - Paraganglioma
Santa Clara (Santa Clara Valley) - (no answer)
Santa Rosa (Santa Rosa Memorial Hospital) - Retroperitoneal extra adrenal paraganglioma
Ventura (Unilab) - Low grade pancreatic endocrine carcinoma (2)
Alaska (Anchorage) - Retroperitoneal paraganglioma, malignant
Florida (Monroe Regional Medical Center) - Enterochromaffin cell tumor vs. endocrine carcinoma
Florida (Winter Haven Hospital) - Solid and papillary pancreatic tumor (1); Islet cell tumor (1)
Florida (Tallahassee) - Low grade pancreatic endocrine carcinoma (need stains) (3)
Illinois (Burr Ridge) - Adrenal cortical carcinoma
Illinois (Cook County Hospital Residents) - Poorly differentiated neuroendocrine—carcinoma vs. epithelial carcinoma (poorly differentiated)
Illinois (DuPage Pathology Associates) - Endocrine carcinoma (due to size and necrosis) (1); Neuroendocrine carcinoma (1)
Indiana (Fort Wayne) - Adrenal cortical carcinoma, myxoid variant retroperitoneum
Kentucky (University of Louisville Residents) - Pancreatic neuroendocrine neoplasm
Louisiana (Louisiana State University Medical Center) - Paraganglioma
Louisiana (Tulane University Medical Center) - Adrenal cortical carcinoma, retroperitoneum
Maryland (Woodbine) - Solid-pseudopapillary tumor (2)
Maryland (National Naval Medical Center) - Solid and cystic papillary epithelial neoplasm of the pancreas (9)
Maryland (University of Maryland) - Paraganglioma
Maryland (Johns Hopkins Hospital Residents) - Favor Hammoudi tumor (papillary and solid epithelial neoplasm)
Massachusetts (New England Medical Center Residents) - Solid-pseudopapillary pancreatic tumour
Massachusetts (Berkshire Medical Center) - Islet cell tumor (8); vs. paraganglioma (1)
Michigan (St. Joseph Mercy Hospital) - Solid and cystic papillary neoplasm of pancreas
Michigan (Oakwood Hospital) - Pancreatic endocrine tumor
Nebraska (Creighton University School of Medicine) - Neuroendocrine neoplasm (favor paraganglioma)
New Jersey (Overlook Hospital) - Solid pseudopapillary neoplasm pancreas (2); Adrenal cortical neoplasm vs. juvenile granulosa cell tumor (1)
New York (SUNY Stony Brook University Hospital Residents) - Papillary and solid epithelial neoplasm (10)
New York (Impath) - Solid pseudopapillary tumor of pancreas
New York (Long Island Jewish Medical Center) - Solid-cystic papillary epithelial tumor of pancreas
New York (DVAMC, Northport) - Solid cystic papillary tumor of pancreas
New York (Beth Israel Medical Center Residents) - Solid pseudopapillary tumor of pancreas
North Carolina (Wake Forest University Residents) - Papillary and solid epithelial neoplasm of pancreas
Ohio (Worthington) - Solid pseudopapillary tumor
Oklahoma (South Tulsa) - Solid pseudopapillary tumor of pancreas
Pennsylvania (Lehigh Valley Hospital) - Paraganglioma
**CASE 6 - DIAGNOSIS:**

**Solid pseudopapillary tumor with neuroendocrine differentiation**

(Note: The tumor stained positively for NSE (3+) and synaptophysin (3+). It was focally positive for chromogranin. It was negative for gastrin, insulin, and keratin.)

T-Y4600, D-2040

**CASE 6 - REFERENCES:**


Illinois (DuPage Pathology Associates) - Hurthle cell neoplasm (minimally invasive???) (1); Hurthle cell neoplasm, most likely adenoma (1)

Indiana (Fort Wayne) - Follicular carcinoma, thyroid lobectomy specimen (Hurthle cell type)

Kentucky (University of Louisville Residents) - Follicular adenocarcinoma with Hurthle cell features

Louisiana (Louisiana State University Medical Center) - Follicular adenoma with oncocytic features

Louisiana (Tulane University Medical Center) - Oncocytic adenoma, thyroid

Maryland (Woodbine) - Nodular hyperplasia (1); Follicular carcinoma (1)

Maryland (National Naval Medical Center) - Follicular adenoma with oxyphilic metaplasia (8); Follicular carcinoma (1)

Maryland (University of Maryland) - Minimally invasive Hurthle cell carcinoma

Maryland (Johns Hopkins Hospital Residents) - Follicular/Hurthle cell carcinoma—vascular invasion is present

Massachusetts (New England Medical Center Residents) - Hurthle cell neoplasm

Massachusetts (Berkshire Medical Center) - Oncocytic carcinoma (8)

Michigan (St. Joseph Mercy Hospital) - Follicular carcinoma

Michigan (Oakwood Hospital) - Hurthle cell adenoma

Nebraska (Creighton University School of Medicine) - Oncocytic carcinoma vs. parathyroid carcinoma

New Jersey (Overlook Hospital) - Hurthle cell neoplasm, thyroid (3)

New York (SUNY Stony Brook University Hospital Residents) - Hurthle cell neoplasm (10)

New York (Impath) - Hurthle cell adenoma

New York (Long Island Jewish Medical Center) - Hurthle cell carcinoma of thyroid

New York (DVAMC, Northport) - Hurthle cell neoplasm

New York (Beth Israel Medical Center Residents) - Oncocytoma

North Carolina (Wake Forest University Residents) - Follicular adenoma

Ohio (Worthington) - Follicular carcinoma

Oklahoma (South Tulsa) - Hurthle cell adenoma

Pennsylvania (Lehigh Valley Hospital) - Paraganglioma

Pennsylvania (Conemaugh Medical Center Residents) - Hurthle cell neoplasm

Pennsylvania (Allegheny General Hospital) - Hurthle cell tumor

Wisconsin (Meriter Health Services) - Probably follicular carcinoma, need more sections to exclude follicular carcinoma

Australia (Royal Prince Alfred Hospital) - Hurthle cell carcinoma (vascular invasion)

Australia (North Queensland Pathology Group) - Follicular carcinoma of thyroid

Canada (Foothills Hospital) - Hurthle cell neoplasm favor adenoma

Japan (Kyoto Prefectural University of Medicine) - Oxyphilic adenoma 91); Oxyphilic carcinoma (2); Follicular carcinoma (1)

Japan (Kawasaki Medical School) - Follicular carcinoma

Puerto Rico (Porto-Portugal Group) - Hurthle cell adenoma (differential diagnosis with medullary carcinoma of thyroid, Hurthle cell type)

Saudi Arabia (King Khalid University Hospital Study Group) - Hurthle cell carcinoma, minimally invasive

Singapore - Follicular adenoma

CASE 7 - DIAGNOSIS:
Minimally invasive Hurthle cell carcinoma, thyroid
T-96000, M-82903

CASE 7 - REFERENCES:


Case No. 8, Accession No. 28736

Bakersfield - Medullary carcinoma of thyroid

February 2001
Bay Area - Medullary carcinoma of thyroid (3)
Hayward/Fremont - Medullary carcinoma with amyloid stroma
Loma Linda Residents - Thyroid medullary carcinoma (7)
Long Beach - Medullary carcinoma (7)
Los Angeles UCLA Residents - Medullary carcinoma
Monterey (Community Hospital of Monterey Peninsula) - Medullary carcinoma
Monterey Park (Garfield Medical Center) - Medullary carcinoma
Mountain View (El Camino Pathology Group) - Medullary carcinoma
Oakland (Kaiser) - Medullary carcinoma (4)
Orange (UCI Medical Center) - Medullary carcinoma
Sacramento (UC Davis) - Medullary thyroid carcinoma (7)
San Diego (Naval Medical Center) - Medullary thyroid carcinoma
Santa Clara (Santa Clara Valley) - Medullary carcinoma (6)
Santa Rosa (Santa Rosa Memorial Hospital) - Medullary carcinoma (3)
Ventura (Unilab) - Medullary carcinoma (2)
Alaska (Anchorage) - Thyroid medullary carcinoma
Florida (Monroe Regional Medical Center) - Medullary carcinoma
Florida (Winter Haven Hospital) - Medullary carcinoma (2)
Florida (Tallahassee) - Medullary carcinoma (3)
Illinois (Burr Ridge) - Medullary carcinoma
Illinois (Cook County Hospital Residents) - Thyroid medullary carcinoma
Illinois (DuPage Pathology Associates) - Medullary carcinoma (2)
Indiana (Fort Wayne) - Medullary carcinoma, thyroid gland
Kentucky (University of Louisville Residents) - Medullary carcinoma, thyroid
Louisiana (Louisiana State University Medical Center) - Medullary carcinoma, thyroid
Louisiana (Tulane University Medical Center) - Medullary carcinoma, thyroid
Maryland (Woodbine) - Medullary carcinoma (2)
Maryland (National Naval Medical Center) - Medullary carcinoma (9)
Maryland (University of Maryland) - Medullary carcinoma of the thyroid
Maryland (Johns Hopkins Hospital Residents) - Medullary carcinoma
Massachusetts (New England Medical Center Residents) - Medullary carcinoma, most likely sporadic
Massachusetts (Berkshire Medical Center) - Medullary carcinoma
Michigan (St. Joseph Mercy Hospital) - Medullary carcinoma
Michigan (Oakwood Hospital) - Medullary thyroid carcinoma
Nebraska (Creighton University School of Medicine) - Medullary carcinoma
New Jersey (Overlook Hospital) - Medullary carcinoma, thyroid (3)
New York (SUNY Stony Brook University Hospital Residents) - Medullary carcinoma of thyroid (10)
New York (Impath) - Medullary carcinoma of thyroid
New York (Long Island Jewish Medical Center) - Medullary carcinoma of thyroid
New York (DVAMC, Northport) - Medullary carcinoma
New York (Beth Israel Medical Center Residents) - Medullary carcinoma
North Carolina (Wake Forest University Residents) - Medullary thyroid carcinoma
Ohio (Worthington) - Medullary carcinoma
Oklahoma (South Tulsa) - Medullary carcinoma
Pennsylvania (Lehigh Valley Hospital) - Medullary carcinoma
Pennsylvania (Conemaugh Medical Center Residents) - Medullary carcinoma, thyroid
Pennsylvania (Allegheny General Hospital) - Medullary carcinoma
Wisconsin (Meriter Health Services) - Medullary carcinoma
Australia (Royal Prince Alfred Hospital) - Medullary carcinoma of thyroid
Australia (North Queensland Pathology Group) - Medullary carcinoma of the thyroid with amyloid
Canada (Foothills Hospital) - Medullary carcinoma
Japan (Kyoto Prefectural University of Medicine) - Medullary carcinoma (4)
Japan (Kawasaki Medical School) - Medullary carcinoma

Vanilla - Medullary carcinoma of thyroid (3)
Puerto Rico (Porto-Portugal Group) - Medullary carcinoma of thyroid
Saudi Arabia (King Khalid University Hospital Study Group) - Medullary carcinoma
Singapore - Medullary carcinoma

CASE 8 - DIAGNOSIS:
Medullary carcinoma, thyroid
T-96000, M-85103

CASE 8 - REFERENCES:

Case No. 9, Accession No. 27848

Bakersfield - Follicular variant papillary carcinoma
Bay Area - Hyalinizing trabecular adenoma (3)
Hayward/Fremont - Trabecular adenoma, thyroid, with pseudoinvasion
Loma Linda Residents - Hyalinizing trabecular adenoma (paraganglioma like adenoma) (7)
Long Beach - Insular (trabecular) carcinoma (7)
Los Angeles UCLA Residents - Paraganglioma
Monterey (Community Hospital of Monterey Peninsula) - Follicular carcinoma
Monterey Park (Garfield Medical Center) - Follicular adenoma
Mountain View (El Camino Pathology Group) - Hyalinizing trabecular adenoma
Oakland (Kaiser) - Hyalinizing trabecular adenoma/variant of papillary carcinoma (4)
Orange (UCI Medical Center) - Follicular adenoma
Sacramento (UC Davis) - Papillary carcinoma vs. medullary immunohistochemistry to differentiate (7)
San Diego (Naval Medical Center) - Poorly differentiated carcinoma, favor papillary follicular variant (9); Poorly differentiated insular carcinoma (2)
Santa Clara (Santa Clara Valley) - Papillary carcinoma (solid/trabecular variant) (6)
Santa Rosa (Santa Rosa Memorial Hospital) - Medullary carcinoma (2); Medullary vs. follicular carcinoma of thyroid (1)
Ventura (Unibab) - Follicular carcinoma
Alaska (Anchorage) - Thyroid follicular adenoma vs. carcinoma
Florida (Monroe Regional Medical Center) - Papillary carcinoma with insular pattern
Florida (Winter Haven Hospital) - Papillary adenoma (1); Paraganglioma-like adenoma
Florida (Tallahassee) - Hyalinizing trabecular adenoma (3)
Illinois (Burr Ridge) - Follicular carcinoma
Illinois (Cook County Hospital Residents) - Hyalinizing trabecular tumor of thyroid
Illinois (DuPage Pathology Associates) - Follicular adenoma (1); Hyalinizing trabecular adenoma variant (1)
Indiana (Fort Wayne) - PLAT neoplasm, thyroid (paraganglioma-like adenoma of thyroid)
Kentucky (University of Louisville Residents) - Hyalinizing trabecular adenoma (minority neoplasm of uncertain malignant potential)
Louisiana (State University Medical Center) - Papillary carcinoma, follicular variant
Louisiana (Tulane University Medical Center) - Papillary carcinoma, solid variant, thyroid
Maryland (Woodbine) - Paraganglioma (2)
Maryland (National Naval Medical Center) - Papillary carcinoma (4); Hyalinizing trabecular adenoma/carcinoma (3); Paraganglioma (2)
Maryland (University of Maryland) - Hyalinizing trabecular carcinoma
Maryland (Johns Hopkins Hospital Residents) - Favor follicular adenoma (thyroglobulin +) vs. paraganglioma (S100, sustentacular cells, chromogranin +)
Massachusetts (New England Medical Center Residents) - Hyalinizing trabecular adenoma
Massachusetts (Berkshire Medical Center) - Insular carcinoma
Michigan (St. Joseph Mercy Hospital) - Hyalinizing trabecular adenoma
Michigan (Oakwood Hospital) - Hyalinizing trabecular adenoma
Nebraska (Creighton University School of Medicine) - Parathyroid carcinoma vs. follicular carcinoma
New Jersey (Overlook Hospital) - Papillary thyroid carcinoma (2); With unusual trabecular patterns (2); ? paraganglioma (1)
New York (SUNY Stony Brook University Hospital Residents) - Hyalinizing trabecular adenoma (10)
New York (Lymph) - Hyalinizing trabecular adenoma
New York (Long Island Jewish Medical Center) - Hyalinizing trabecular adenoma of thyroid
New York (DVAMC, Northport) - Hyalinizing trabecular adenoma
New York (Beth Israel Medical Center Residents) - Papillary carcinoma, follicular variant
North Carolina (Wake Forest University Residents) - Hyalinizing trabecular adenoma
Ohio (Worthington) - Poorly differentiated carcinoma
Oklahoma (South Tulsa) - Hyalinizing trabecular adenoma
Pennsylvania (Lehigh Valley Hospital) - Paraganglioma
Pennsylvania (Conemaugh Medical Center Residents) - Hyalinizing trabecular adenoma
Pennsylvania (Allegheny General Hospital) - Follicular variant of papillary carcinoma
Wisconsin (Meriter Health Services) - Follicular variant of papillary carcinoma
Australia (Royal Prince Alfred Hospital) - Hyalinizing trabecular adenoma
Australia (North Queensland Pathology Group) - Hemorrhagic degeneration in microfollicular adenoma of thyroid
Canada (Foothills Hospital) - Hyalinizing trabecular adenoma
Japan (Kyoto Prefectual University of Medicine) - Hyalinizing trabecular adenoma (3); Atypical adenoma (1)
Japan (Kawasaki Medical School) - Papillary carcinoma
Puerto Rico (Porto-Portugals Group) - Papillary carcinoma of thyroid—solid trabecular and follicular variant
Saudi Arabia (King Khalid University Hospital Study Group) - Follicular adenoma (trabecular)
Singapore - Hyalinizing trabecular adenoma

**CASE 9 - DIAGNOSIS:**

Hyalinizing trabecular carcinoma, thyroid

T-96000, M-81903

CONSULTATION: Juan Rosai, M.D., Memorial Sloan-Kettering Cancer Center, New York, NY. “Poorly-differentiated thyroid carcinoma.”

**CASE 9 - REFERENCES:**


Case No. 10, Accession No. 27842

Bakersfield - Papillary carcinoma of thyroid
Bay Area - Papillary carcinoma of the thyroid (3)
Hayward/Fremont - Papillary carcinoma, thyroid, tall cell variant
Loma Linda Residents - Papillary thyroid carcinoma (7)
Long Beach - Papillary thyroid carcinoma (7)
Los Angeles UCLA Residents - Papillary thyroid carcinoma
Monterey (Community Hospital of Monterey Peninsula) - Papillary carcinoma

February 2001
Monterey Park (Garfield Medical Center) - Papillary carcinoma, tall cell variant
Mountain View (El Camino Pathology Group) - Papillary carcinoma, “tall cell” variant
Oakland (Kaiser) - Papillary carcinoma (4)
Orange (UCI Medical Center) - Papillary carcinoma
Sacramento (UC Davis) - Papillary carcinoma (7)
San Diego (Naval Medical Center) - Papillary carcinoma
Santa Clara (Santa Clara Valley) - Papillary carcinoma
Santa Rosa (Santa Rosa Memorial Hospital) - Papillary carcinoma (3)
Ventura (Unilab) - Papillary carcinoma (2)
Alaska (Fairbanks) - Thyroid papillary carcinoma (follicular variant)
Florida (Monroe Regional Medical Center) - Papillary carcinoma, tall cell variant
Florida (Winter Haven Hospital) - Papillary carcinoma (2)
Florida (Tallahassee) - Papillary carcinoma (3)
Illinois (Burr Ridge) - Papillary carcinoma
Illinois (Cook County Hospital Residents) - Papillary carcinoma of thyroid
Illinois (DuPage Pathology Associates) - Papillary carcinoma (2)
Indiana (Fort Wayne) - Papillary carcinoma, left thyroid lobe
Kentucky (University of Louisville Residents) - Papillary carcinoma, tall cell variant
Louisiana (Louisiana State University Medical Center) - Papillary carcinoma, thyroid
Louisiana (Tulane University Medical Center) - Papillary carcinoma, thyroid
Maryland (Woodbine) - Papillary carcinoma (2)
Maryland (National Naval Medical Center) - Papillary carcinoma (9)
Maryland (University of Maryland) - Papillary carcinoma of the thyroid
Maryland (Johns Hopkins Hospital Residents) - Papillary carcinoma
Massachusetts (New England Medical Center Residents) - Follicular variant of papillary carcinoma with focal tall cell change
Massachusetts (Berkshire Medical Center) - Papillary carcinoma, NOS (4): vs. papillary carcinoma, tall cell variant (4)
Michigan (St. Joseph Mercy Hospital) - Papillary carcinoma, columnar cell type
Michigan (Oakwood Hospital) - Papillary carcinoma
Nebraska (Creighton University School of Medicine) - Papillary carcinoma of thyroid
New Jersey (Overlook Hospital) - Papillary thyroid carcinoma (3)
New York (SUNY Stony Brook University Hospital Residents) - Papillary carcinoma of thyroid (10)
New York (Impath) - Papillary carcinoma, thyroid
New York (Long Island Jewish Medical Center) - Papillary carcinoma, tall cell variant
New York (DVAMC, Northport) - Papillary carcinoma
New York (Beth Israel Medical Center Residents) - Papillary carcinoma, tall cell variant
North Carolina (Wake Forest University Residents) - Papillary thyroid carcinoma
Ohio (Worthington) - Papillary thyroid carcinoma
Oklahoma (South Tulsa) - Papillary carcinoma
Pennsylvania (Lehigh Valley Hospital) - Papillary carcinoma
Pennsylvania (Conemaugh Medical Center Residents) - Papillary carcinoma, thyroid
Pennsylvania (Allegheny General Hospital) - Papillary carcinoma
Wisconsin (Meriter Health Services) - Papillary carcinoma, high grade
Australia (Royal Prince Alfred Hospital) - Papillary carcinoma, tall cell variant
Australia (North Queensland Pathology Group) - Papillary carcinoma of thyroid ?? tall cell variety
Canada (Foothills Hospital) - Papillary carcinoma, tall cell variant
Japan (Kyoto Prefectural University of Medicine) - Papillary carcinoma (4)
Japan (Kawasaki Medical School) - Papillary carcinoma
Puerto Rico (Porto-Portugal Group) - Papillary carcinoma of thyroid (foci of columnar cell variant)
Saudi Arabia (King Khalid University Hospital Study Group) - Papillary carcinoma
Singapore - Papillary carcinoma
CASE 10 - DIAGNOSIS:
Papillary carcinoma, thyroid
T-96000, M-80503

CASE 10 - REFERENCES: