

**PATHOLOGISTS' CLUB  
OF NEW YORK**

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**MEETING**

**PRESIDENT**  
KAULS P. VALSAMIS, M.D.  
DEPARTMENT OF PATHOLOGY  
NEW YORK MEDICAL COLLEGE  
VALHALLA, NEW YORK 10595

**Date:** Thursday, November 3, 1994

**VICE PRESIDENT**  
FRED B. SMITH, M.D.  
DEPARTMENT OF PATHOLOGY  
ST. VINCENT'S HOSPITAL  
111 WEST 111TH STREET  
NEW YORK, NY 10011

**Place:** Bellevue Hospital (New)  
27th St. at 1st Avenue  
New York, New York

**SECRETARY-TREASURER**  
JAH G. JONES, M.D.  
ANATOMIC PATHOLOGY  
EINSTEIN-WEILER HOSPITAL  
105 EASTCHESTER ROAD  
BRONX, NY 10461

**Host:** Dr. John Pearson

**Information:** Dr. John Pearson  
(212) 263-6438

**RECEPTION: 5:15 P.M. PATHOLOGY LABORATORY, 4TH FLOOR**

**DINNER: 6:00 - 7:00 P.M. ROSE ROOM, 11TH FLOOR**

**SCIENTIFIC SESSION: 7:00 - 9:00 P.M. ROSE ROOM, 11TH FLOOR**

**Directions:** The hospital is located at 27th St. at 1st Avenue

**By Subway:** Take the Lexington line

**Parking:** Parking garages are located at 29th St. and 1st Ave as well as at 30th St. and 1st Ave.

**Next Meeting:** New York Medical Center, December 1, 1994

CASE HISTORIES - PATHOLOGISTS' CLUB MEETING, BELLEVUE HOSPITAL 11/3/94

Case # 1 Invited discussant: Dr. L. Deligdisch, Mt. Sinai  
Host discussant: Dr. K. Mittal

**CONE BIOPSY FROM A 27 YEAR OLD WOMAN** This patient had a class III Pap smear, a cervical biopsy read as having focal changes suggestive of condyloma and endocervical curetings with squamous metaplasia. Colposcopy was unsatisfactory due to cervical stenosis. A cervical cone biopsy was done.

Case # 2 Invited discussant: Dr. T. Godwin, Cornell  
Host discussant: Dr. J. Jagirdar

**OPEN LUNG BIOPSY FROM A 38 YEAR OLD WOMAN WITH RECURRENT HEMOPTYSIS** One year ago the patient had an exacerbation of childhood onset, steroid treated asthma. Over the last six months there had been episodes of deep vein thrombosis and massive hemoptysis. Pulmonary angiogram showed LLL pulmonary embolism. CT showed bibasilar fibrosis; bronchoscopy confirmed hemorrhage into the LLL. Despite placement of a venous interruption device she had two more episodes of massive hemoptysis. She was treated for Klebsiella sepsis. On discharge the patient failed to take her prednisone and was readmitted. There was no adenopathy nor organomegaly. Lung: inspiratory crackles, expiratory wheezes. Cor: WNL. LLE: pitting edema. CXR: bilateral diffuse interstitial infiltrates. CT: alveolar filling process with mild interstitial markings. 2D Echo: mild, global LV dysfunction. LABS: WBC 10.9 (73 segs, 25 lymphs), Hgb 10.2, ABG 7.42/35/66/23, PT/PTT 12/33.5, lytes - nl, BUN/Cr 12/1.0, UA nl, urine micro 5-10 WBCs, no RBCs or casts, ESR 35, AST 15, ALT 20, HIV -, ANA 1+ speckled at 1:80, anti-GBM Ab -, ANCA -, anticardiolipin Ab -, CH50 241 (100-300), C3 131 (55-120), C4 62 (20-50). An open lung biopsy was performed.

Case # 3 Invited discussant: Dr. D. Wolfe, Mt. Sinai  
Host discussant: Dr. S. Kornacki

**SUBCUTANEOUS MASS FROM A 16 YEAR OLD BOY** Several months after it had first been noted, a recent increase in size occurred in a well circumscribed 8 X 6 cm subcutaneous mass in the upper back. There were no other signs, symptoms, nor masses. The patient's prior health had been good.

Case #4 Invited discussant: Dr. J. Prineas, VA, East Orange  
Host discussant: Dr. D. Zagzag

**BIOPSY OF FRONTAL LOBE MASS IN A 12 YEAR OLD BOY** The patient had a personality change and was intermittently lethargic over the few weeks before admission. Physical examination showed papilledema. CT showed multiple intracranial enhancing lesions. The MRI is from a 30 year old woman with similar pathology who was in perfect health until experiencing a "tonic clonic seizure with focal components". On admission, she had no abnormal physical signs. MRI scan revealed a left posterior/superior temporal lobe contrast enhancing ring lesion. With a presumptive diagnosis of a glial tumor or abscess a stereotactic biopsy was performed.

Case #5 Invited discussant: Dr. D. Dickson, Einstein  
Host discussant: Dr. D. Miller

**THREE BRAIN SECTIONS FROM AN 87 YEAR OLD WOMAN** The patient was admitted after an acute onset of confusion. For several weeks, her son had noticed episodic memory loss and disorientation, followed by lethargy, apathy, and dysarthria. Past history included head trauma from an MVA 20 years ago and 2 episodes of seizure-like activity 2 and 5 years ago. On admission the patient was alert but disoriented. The clinical impression was diffuse cerebral dysfunction, possibly dementia. CSF protein was 109 (14-40). CT showed an old left posterior temporal lobe infarct, old left cerebellar hemisphere infarct, and hydrocephalus. MRI suggested low flow in the carotid and vertebral basilar circulations. The patient's condition progressively worsened, and she expired three days after discharge to hospice care.

**MINUTES PATHOLOGISTS' CLUB MEETING  
BELLEVUE HOSPITAL  
NOVEMBER 3, 1994**

**OMISSIONS & CORRECTIONS**

Omissions include my thanks to Dr. Maria Sabatini and her staff at Cabrini Medical Center for hosting a most enjoyable dinner and scientific session in October. The Autumn sunset overlooking the skyline of Manhattan was a beautiful backdrop for dinner, and the case presentations were stimulating as well as informative. By way of corrections, the differential diagnosis for Dr. Jagirdar's case of strongyloides is indeed hookworm (ancylostoma). As for our most recent meeting, Dr. John Pearson, his staff, and the invited discussants all did a superb job, especially considering the short time interval allotted. The Club extends its thanks.

**SCIENTIFIC SESSION**

**CASE #2:** Dr. Godwin presented the case of an open lung biopsy from a thirty eight year old woman with recurrent hemoptysis and several episodes of deep vein thrombosis with pulmonary embolism. A work up for vasculitis was negative. Microscopic examination revealed a DIP-like process with filling of air spaces by non-pigmented macrophages. The differential diagnosis for a DIP-like process includes DIP, UIP, chronic interstitial pneumonitis, respiratory bronchiolitis, idiopathic pulmonary hemosiderosis, eosinophilic granuloma, and eosinophilic pneumonia. It was Dr. Godwin's opinion that none of these diagnoses seemed particularly appropriate, either by virtue of aspects in the history or in the context of the histologic findings. Additional findings in the biopsy included interstitial fibrosis and pneumocyte hyperplasia, but more dramatic was the marked medial hypertrophy of small and medium sized vessels with virtual obliteration of some lumina. The finding of multiple channels within vessels raised the differential diagnoses of recanalization following thromboembolism vs. plexogenic pulmonary arteriopathy. Also unanswered was the cause for this patient's thromboembolic events and whether or not these events alone could account for the patient's episodes of hemoptosis. Among the primary pulmonary causes for alveolar hemorrhage are vasculitis, idiopathic pulmonary hemosiderosis, and collagen vascular disease. In the final analysis Dr. Godwin favored the diagnoses of idiopathic pulmonary hemosiderosis and possibly SLE. Dr. Jagirdar noted that clinically the patient presented with pulmonary alveolar hemorrhage syndrome. The clinicians' impression was idiopathic pulmonary hemosiderosis; work up for SLE was negative. CT scan showed a diffuse alveolar filling process and the microscopic findings were as those described by Dr. Godwin: a DIP-like process in which the iron stain was essentially negative. Electron microscopy showed an intact basement membrane, old thromboemboli, and no hemorrhage. Dr. Jagirdar's diagnosis was DIP and pulmonary thromboembolism with recurrent pulmonary hemorrhage. Dr. Jagirdar noted in her discussion that DIP (desquamative interstitial pneumonitis) is a diagnosis of exclusion and a misnomer in the sense that air spaces are filled with alveolar macrophages rather than pneumocytes. The X-ray findings were compatible with this diagnosis, and DIP can present with pulmonary hemorrhage. The etiology remains unknown, but viral mechanisms, exposure to particulates, circulating immune complexes, and growth factor binding proteins have all been suggested to play a role.

**DIAGNOSIS: DIP AND PULMONARY THROMBOEMBOLISM WITH RECURRENT PULMONARY HEMORRHAGE**

Refs: Gaensler EA et al. DIP. NEJM 274:113,1966  
Patchefsky AS et al. DIP: Relationship to interstitial fibrosis. Thorax 28:680,1973.  
Patchefsky AS et al. DIP. Arch Int Med 132:222,1973  
Stachura I et al. Mechanisms of tissue injury in DIP. Am J Med 68:733,1980  
Hogan et al. Immunofluorescence studies of lung biopsy tissue. Am Rev Res Dis 118:537,1978  
Carrington et al. Usual and desquamative interstitial pneumonia. Chest 69:261,1976 supp

**CASE #1:** A cone biopsy was performed on a twenty seven year old woman with a history of a Class III PAP smear and unsatisfactory colposcopy. Microscopic examination disclosed dispersed ducts and tubular structures extending to and involving deep margins. Some of the ducts showed outpouchings and a lobular pattern. Others were cystic. At high power the lining cells appeared regular, cuboidal to columnar, with bland nuclei and a powdery chromatin. The differential diagnosis presented by Dr. Deligdisch of pseudoneoplastic glandular lesions of the endocervix including papillary endocervicitis, endocervical tunnel clusters, endometriosis, and her diagnosis: mesonephric hyperplasia. On occasion these embryologic remnants can show a complex architectural arrangement. Secretions may or may not be present, and PAS staining is luminal rather than intracytoplasmic. As expected from the embryologic development of the Mullerian and mesonephric duct systems, these lesions are found in the lateral aspects of the cervix. Mesonephric hyperplasia is an asymptomatic benign incidental finding. Malignancies which may be confused with this entity include adenoma malignum, adenocarcinoma in situ, clear cell carcinoma, mesonephric carcinoma, and metastatic carcinoma. Dr. Mittal agreed with the diagnosis and noted that followup screening had been negative. In reviewing the literature, the features most commonly responsible for confusion with malignancy include the diffuse pattern, extension to the deep margins, potential involvement of the vagina and/or uterus, and on occasion the presence of mitoses. Mitoses were in fact identified in this case; however a mitotic rate of 1 per 10 high powered fields is considered acceptable.

#### **DIAGNOSIS: MESONEPHRIC HYPERPLASIA**

Ref. Ferry JA, Scully RE. Mesonephric remnants, hyperplasia and neoplasia in the uterine cervix: A study of 49 cases. *AJSP* 1990;14:1100-1111.

Lang G, Dallenbach-Hellweg G. The histogenetic origin of cervical mesonephric hyperplasia and mesonephric adenocarcinoma of the uterine cervix studied with immunohistochemical methods. *I J Gyn Path* 1990; 9:145-157.

**CASE #3:** An 8 cm. subcutaneous mass was excised from the upper back of a sixteen year old boy. Dr. Wolfe reviewed the histology of this malignant small blue cell tumor. Sections showed a solid, patternless neoplasm composed of relatively cohesive cells with round, slightly vesicular nuclei, scant cytoplasm, and indistinct cell borders. Scattered mitoses were present. There were no distinctive architectural features and the reticulin stain was essentially negative. The PAS stain demonstrated the presence of glycogen. The following immuno panel was performed: NSE and vimentin strongly positive, cytokeratin scattered positive cells, synaptophysin, chromogranin, and GFAP negative. Dr. Wolfe discussed his differential of PNET vs Ewing's sarcoma and whether such a distinction is indeed still possible. The antibody HBA-71 (a cell surface glycoprotein) stains both of these entities and serves to distinguish them from rhabdomyoblastoma, classic neuroblastoma, and lymphoid malignancies. Characteristic cytogenetic abnormalities have also been described. Dr. Kornaki agreed with Dr. Wolfe's assessment of the case. Her immunoprofile differed in that cytokeratin showed diffuse strong dot-like positivity, like a neuroendocrine neoplasm, and NSE as well as S-100 and synaptophysin were negative. This pattern of variable NSE and cytokeratin staining has been described but may produce difficulties in reaching the correct diagnosis. The HBA-71 antibody however has a reported 95 % sensitivity for Ewing's sarcoma and PNET. Dr. Kornaki also agreed that while historically PNETs have a reportedly worse prognosis than Ewing's sarcoma, this distinction is becoming increasingly blurred.

#### **DIAGNOSIS: PNET/EXTRAOSSEOUS EWING'S SARCOMA**

Ref. Downing JR et al. Detection of the (11;22) (q24;q12) translocation of Ewing's sarcoma and PNET by reverse transcription PCR. *A J Path* 143 (5):1294-300, 1993.

Fellinger EJ et al. Comparison of HBA 71, NSE, and vimentin in the immunohistochemical analysis of Ewing's sarcoma of bone. *AJSP* 16(8):746-55, 1992.

Perlman EJ et al. Ewing's sarcoma - routine diagnostic utilization of MIC 2 (HBA 71): An intergroup study. *Hum Path* 25 (3):304-7,1994

Navarro S et al. Comparison of Ewing's sarcoma of bone and PNET. *Arch Path Lab Med* 118(6):608-15, 1994.

Riopel M et al. MIC 2 analysis in pediatric lymphomas and leukemias. *Hum Path* 25(4) 396-9, 1994.

Dehner LP. PNET and Ewing's sarcoma. *AJSP* 17(1):1-13,1993.

**CASE #4:** A frontal lobe biopsy was performed on a twelve year old boy who had developed a personality change and was found on physical examination to have increased intracranial pressure. CT from this case and from a case with similar pathology both showed intracranial ring enhancing lesions. Microscopic examination showed swollen astrocytes, a perivascular mononuclear infiltrate, and macrophages. Demyelination was demonstrated in several but not all fragments suggesting sharply circumscribed lesions, but axons were preserved. The differential diagnosis then was that of an inflammatory condition affecting the white matter which depletes myelin but preserves axons. Diagnoses excluded from further consideration either on the basis of history or histologic and radiographic findings include adrenal leukodystrophy, PML, Hearsts' acute hemorrhagic leukoencephalitis, and perivenous encephalomyelitis. Dr. Prineas' diagnosis was multiple sclerosis, which in the early stages may produce ring enhancing lesions. Additional atypical presentations include late onset epilepsy and stroke like symptomatology. Although mass lesions may suggest a tumor or abscess, the pathology is typical for the early lesions in the relapsing and remitting form of multiple sclerosis. Dr. Zagzag agreed with this assessment and diagnosis. He noted that the prominent vascular hyperplasia which can be seen in MS may lead to consideration of a tumor, but if followed over time, these lesions will come and go. Difficulties in proper frozen section evaluation include the hypercellularity of these lesions, mitotic activity, astrocytic pleomorphism, occasional necrosis and cystic degeneration, and the admixed macrophages. GFAP will highlight the spidery reactive astrocytes whereas immuno maybe helpful to delineate the macrophages. Demyelination will be demonstrated on the Luxol Fast Blue. Another differential diagnosis would include some gliomas.

#### **DIAGNOSIS: MULTIPLE SCLEROSIS, RELAPSING AND REMITTING FORM**

Ref. Zagzag D et al. Demyelinating disease versus tumor in surgical neuropathology: Clues to the correct diagnosis. *AJSP* 17(6):537-545, 1993.

**CASE #5:** An eighty seven year old woman admitted with acute confusion and possible dementia showed progressive deterioration and ultimately expired. CT had shown hydrocephalus and multiple infarcts; MRI suggested low blood flow. The section submitted for evaluation included mid-brain, basal forebrain, and cortex. Dr. Dickson described spongiform changes in the mid-brain interpreted as brain stem ischemia which could account for the patient's acute confusion. Ubiquitin positive Lewy bodies were found in the substantia nigra, but this is not a finding exclusive to Parkinson's Disease. In addition, thioflavin stains disclosed rare tangles. In the cortex rare Lewy bodies were also present (ubiquitin positive), but in Dr. Dickson's opinion the numbers were insufficient on this section alone to diagnose diffuse Lewy body disease. Beta amyloid deposits were also present but these were not found in association with neurofibrillary tangles and hence this was not considered a finding of Alzheimer's disease. Furthermore, in the amygdala, where neurofibrillary tangles are common in Alzheimer's disease, only one tangle was identified. Dr. Dickson's diagnoses were as follows: acute brain stem infarction, the pathology of aging (cortex), and a mixed type dementia (vascular and the transitional form of Lewy body disease). Dr. Miller agreed with Dr. Dickson's assessment of the case. The brain stem and mid-brain both showed multi focal infarction. A modified silver stain of the cingulate gyrus showed a few plaques suggesting early Alzheimer's disease but in insufficient numbers to account for the patient's dementia. The spongiform changes in the mid-brain which may suggest Creutzfeld-Jacob Disease may also be seen in diffuse Lewy body disease. In Dr. Miller's opinion, the number of Lewy bodies found in the amygdala were sufficient to support the diagnosis of diffuse Lewy body disease.

#### **DIAGNOSIS: DIFFUSE LEWY BODY DISEASE WITH SUPERIMPOSED VASCULAR EVENTS PRODUCING ACUTE CONFUSION**