

# Proceedings from the 2000 Annual Meeting of the American College of Physicians–American Society of Internal Medicine, Wisconsin Chapter

*Edited by Frank Graziano, MD, PhD*

## INTRODUCTION

The Wisconsin Chapter of the American College of Physicians–American Society of Internal Medicine annual meeting was held in Madison, WI September 7–9, 2000. Once again, a highlight of the meeting was the presentation of posters and vignettes by residents from the five residency programs in the state (Gundersen Clinic, Marshfield Clinic, Medical College of Wisconsin, Mt. Sinai Hospital, and the University of Wisconsin Hospital and Clinics). So that all may appreciate the quality of our Internal Medicine residents and the quality of care given by these residents in our Wisconsin residency programs, the full text presentations for the poster and vignette sessions held at the Associates part of the meeting are presented below. Through the cooperation of the *Wisconsin Medical Journal* we will publish these presentations yearly, however, there is nothing like the lively medical discussion these posters and vignettes produce at the ACP-ASIM meeting.

## ANGIOGRAPHIC FINDINGS AFTER SUCCESSFUL THROMBOLYSIS IN PATIENTS WITH ACUTE MYOCARDIAL INFARCTION IN THE GENERAL POPULATION

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**Objective:** To describe the angiographic findings among patients with acute myocardial infarction (AMI) successfully reperfused with intravenous tPa in the general population.

**Methods:** We used the Marshfield's Clinic Cardiology Database to identify AMI cases during approximately 3 years. Two-hundred potential cases were analyzed. Incident cases of AMI were defined by clinical, enzymatic, ECG criteria. All the patients met clinical and electrocardiographic reperfusion criteria after tPa infusion.

**Results:** A total of 79 patients were enrolled consecutively. The mean age was 63±12 years and 56 (71%) were males. Hypercholesterolemia (56%), hypertension (44%), tobacco abuse (39%), diabetes (19%) and COPD (6%) were the most common associated clinical features. A coronary angiogram was performed on 76 patients (96%)—either at

admission or during the first week of the AMI. The left anterior descending artery (42%) was the most commonly affected artery, followed by the right coronary artery (36%) and left circumflex (11%). In 89% of the cases the artery was occluded proximally at the mid-third. The residual percentage of stenosis was 89±10%. TIMI 0 flow was found in 18% of the cases at the time of the initial angiogram. In 40 patients (52%), a successful angiographic reperfusion (TIMI 3) was achieved.

**Conclusion:** Complete coronary reperfusion (TIMI 3) is achieved in approximately 50% of the patients after successful thrombolysis. The atherosclerotic plaque responsible for the acute coronary event seems bigger than previously recognized. The suboptimal results by thrombolysis alone suggest that more aggressive therapy may be required to improve clinical outcomes.

## CELIAC DISEASE PRESENTING AS IRON AND B12 DEFICIENCY ANEMIA WITH PROGRESSION TO ADENOCARCINOMA

*Evan Domeyer, DO, Gundersen Lutheran Medical Center, La Crosse, WI*

Celiac disease is characterized by villous atrophy, malabsorption, and an increased risk for intestinal malignancy. Presenting symptoms include diarrhea, flatulence, weight loss, and fatigue. Complications include anemia, osteopenic bone disease, peripheral neuropathy, secondary hyperparathyroidism, malignancy, and progression of disease to refractory sprue. Patients with celiac sprue usually respond well to gluten-free diet and the prognosis is excellent. However, patients with refractory sprue have a greater risk for progression to malignancy and a much higher overall mortality rate.

A 49-year-old female presented with complaints of nausea, dizziness, weakness, dyspnea on exertion, 20–25 pound weight loss, and ice pica for the past 3 months. She denied abdominal pain, change in stools, melena, or hematochezia. Physical exam was unremarkable except for anemic pallor and guaiac positive stools. Initial laboratory tests showed a hemoglobin of 8.0, MCV of 83.1, serum iron of 21, TIBC of 374, and percent saturation of 6, and a vitamin B<sub>12</sub> of 98. This was consistent with iron deficiency and B<sub>12</sub> deficiency anemia. The patient then underwent upper and lower endoscopies. Colonoscopy revealed a single small hyperplastic polyp and upper endoscopy showed featureless

duodenal mucosa. Biopsies revealed severe villous atrophy and intraepithelial lymphocytosis consistent with the diagnosis of celiac sprue. Small bowel follow-through was then performed and showed some flattening of the mucosa in the proximal jejunum. The C-loop was notably prominent. Pancreatic head mass was excluded with a CT scan. The patient was discharged on iron supplements, B12 injections and gluten free diet. She was feeling well until 5 months after the initial presentation when she developed severe back and abdominal pain. CT of abdomen and pelvis revealed a 7x8x10.5 cm mass arising from the small bowel at the junction of duodenum and jejunum. Enteroscopy was performed and biopsies confirmed stage IV adenocarcinoma of the small bowel. Surgical consultation was obtained and the mass was deemed unresectable. The patient was sent for palliative chemotherapy.

Iron deficiency anemia is a common complication of celiac sprue and is usually due to impaired iron absorption in untreated patients. B12 deficiency is present only when there is severe ileal disease. A high index of suspicion for signs of malabsorption needs to be maintained when evaluating patients with iron deficiency anemia. A thorough evaluation to rule out malignancy must be undertaken whenever a patient with known celiac disease presents with an exacerbation.

## **CHRONIC AUTOIMMUNE HEMOLYTIC ANEMIA: COMPLICATIONS AND CONCOMITANT DISEASES**

*Lisa Illig and Eliot Williams, University of Wisconsin Medical School, Madison, WI*

*Case:* A 62-year-old man with a 6-year history of idiopathic autoimmune hemolytic anemia (AIHA) was admitted with chest pain, shortness of breath and symptoms of an upper respiratory infection (URI). Hemoglobin was 6 with 28% reticulocytes. Total bilirubin and LDH were elevated. Myocardial infarction was ruled out, and he was given red cell transfusions with resolution of his symptoms. Symptoms were attributed to hemolysis triggered by URI. Prednisone was increased from 40 mg to 60 mg daily. Mycophenolate and azathioprine were continued. He presented 3 weeks later with daily fevers, chills, and night sweats. Exam was unremarkable. Hemoglobin was 6.1 with 37% reticulocytes. Chest x-ray demonstrated a new diffuse nodular interstitial abnormality throughout both lung fields suspicious for miliary tuberculosis. Blood cultures were negative. No sputum was produced. PPD was anergic. CT of the chest, abdomen and pelvis revealed clear lung fields, but showed mediastinal, retroperitoneal, and left axillary lymphadenopathy. Lymph node and bone marrow biopsies were performed. The lymph node showed mycobacterial lymphadenitis, with sheets of histiocytes full of acid-fast organisms. The marrow was 90% cellular with a monoclonal B-cell population consistent with chronic lymphocytic leukemia. Cultures of the lymph node and bone marrow grew *Mycobacterium avium*.

*Discussion:* Treatment of idiopathic AIHA begins with steroid therapy. If steroids cannot be tapered, splenectomy

is performed. If hemolysis continues, other immunosuppressives are added, however the risk for opportunistic infection increases. Disseminated *M. Avium* is most commonly seen in patients with late-stage AIDS, but has been reported less frequently in patients with other causes of immunosuppression. Treatment in this case was complicated by underlying CLL and ongoing hemolysis.

## **ENDOMETRIOSIS WITH ASCITES**

*P. Sujatanond, MD, C. Heidenreich, MD, R.C. Anderson, MD, Medical College of Wisconsin, Milwaukee, WI*

Endometriosis is a common disease affecting 10% of premenopausal women. The incidence may be as high as 30% to 60% among infertile women. Although pelvic pain is the most common presenting symptom, other signs may indicate extrapelvic involvement. We present the case of a 20-year-old patient with endometriosis presenting as massive ascites.

Endometriosis with ascites is unusual. There are about 30 cases reported in the literature. Initial presentation may raise suspicion of a malignancy. Medical management is effective. The case illustrates the importance of considering endometriosis in the differential diagnosis of ascites.

## **AN INTRASCROTAL EXTRATESTICULAR MASS**

*Yoganand Gundamraj, Margery Howard, Edward Rosenthal, Sinai Samaritan Medical Center, Milwaukee, WI*

A 35-year-old African American male with von Recklinghausen's disease presented with a left testicular mass. The patient had noticed a small scrotal swelling several years prior that remained unchanged. The swelling had increased during the previous 2 months and was associated with pain. He did not complain of any urinary problems. Physical examination revealed multiple non tender soft nodules with café au lait spots throughout. Examination of the scrotum revealed a 3x7 cms oval-shaped tender firm mobile mass located in superior anterior aspect of left testicle. Ultrasound showed a solid mass close to the left testes but unattached to it. This mass was surgically resected via an inguinal approach. Histopathology showed an anaplastic glandular malignant schwannoma originating from a focus of residual neurofibroma lesion.

*Discussion:* Malignant schwannomas are highly malignant rare lesions. Malignant degeneration of neurofibromas has been described but there is only 1 case report of schwannoma arising from a scrotal neurofibroma.

## **LADY WITH WEAKNESS, ATAXIA AND FEVER**

*Savita M. Chander, MD, University of Wisconsin Medical School, Madison, WI*

A 59-year-old woman was admitted to the hospital with chief complaints of diplopia, frontal headaches, gait problems, and intermittent fevers. Four months prior to admission, she was diagnosed with a left Bell's palsy that had subsequently resolved. During the next few months, she started developing problems walking as well as progressive right leg pain and weakness. She sought medical help when

she started having a constant left frontal and periorbital headache and double vision. An MRI scan of her head revealed a left tentorial meningioma. Her past medical history was significant for hypertension and anxiety. Surgeries in the past included tubal ligation and breast augmentation. Her medications on admission included propranolol, spironolactone, HCTZ, triazolam, zoloft, tegretol, and hydrocodone. She was a current smoker with a 20-year history and took occasional alcohol. On admission, she was alert with stable vitals, and the only pertinent findings were positive binocular diplopia and she kept her left eye closed most of the time. Power in her right lower extremity was 4-/5 in both proximal and distal groups with mild diminution of her reflexes. She also had an abnormal tandem walk. Labs at the time of admission including a CBC, chem 7, Ca, Mg, PO<sub>4</sub> were normal.

CSF studies showed an elevated protein at 136 (CSF IgG Index was high). An EMG of her face and right lower extremity showed an axonal motor radiculoneuropathy thought to be consistent with either CIDP or a variant of Guillain Barre syndrome. The patient was then treated with IVIG.

There was no improvement in her condition, and she continued to have fever. The white count and her platelet count started decreasing. An infectious disease consult was obtained, during which she was noted to have a massive hepatosplenomegaly. She also complained of a cough with mucopurulent sputum. A CT scan of her abdomen revealed a massive hepatosplenomegaly. The chest CT showed ground glass opacities and thickening of her upper airways, but a lung biopsy showed only an atypical lymphoid infiltrate. A bone marrow biopsy was positive for a total of 5 AFB. The biopsy also showed that 10 to 15% of her marrow was infiltrated with large cells with prominent nucleoli compatible with lymphoma, and flow cytogenetics confirmed this as a large cell lymphoma. The AFB in the marrow was then thought to be a false positive result. The rest of her ID work-up including cultures (bacterial and fungal) and viral titres were negative. The patient's neurological symptoms and the diplopia in particular responded to the CHOP chemotherapy and intrathecal MTX, and hence the patient was classified as a stage IV B Large Cell Lymphoma with CNS involvement.

## RECOGNIZING CALCIPHYLAXIS: A CASE REPORT

*Jennifer Hablewitz, MD, Sinai Samaritan Medical Center, Milwaukee, WI*

Calciphylaxis is an uncommon complication of end stage renal disease (ESRD) and secondary hyperparathyroidism. Calcification of the skin and subcutaneous tissues or of internal organs can lead to skin necrosis, ulceration, or other skin lesions. Histology is specific for medial calcification with intimal hyperplasia and thrombosis of the lumen of small sized arteries. Patients often have elevated calcium phosphate product.

*Case:* A 32-year-old female with insulin dependent diabetes mellitus, hypertension, and diabetic nephropathy

presented with a nonhealing sacral ulcer. The patient had previously undergone bilateral below the knee amputations, and right second and third digit amputations for presumptive diabetic vasculitis. Patient also had 4 gangrenous digits and was on high dose prednisone for 8 years. Initial labs revealed WBC 22.1, creatinine 5.2 mg/dl, BUN 62 mg/dl, Ca 9.7 mg/dl, phosphorus 6.5 mg/dl, LDH 231, albumin 2.1 mg/dl, alk phos 394 U/L, and PTH 129.8 (10-65 pg/ml). Pathology of right leg tissue showed calcification of the medial layer of the blood vessels. Patient was offered parathyroidectomy but declined. She was discharged after an antibiotic course and steroid wean.

*Discussion:* Calciphylaxis is a serious disease and patients often succumb to sepsis and infectious complications. It is important to consider calciphylaxis when treating patients with ESRD and hyperparathyroidism because early diagnosis and treatment may interrupt disease progression. Parathyroidectomy, anticoagulants, and phosphate binders have found anecdotal success, but definite treatment remains elusive.

## THYROID CRISIS PRESENTING IN A YOUNG MALE

*Richard Warshell, MD, Sinai Samaritan Medical Center, Milwaukee, WI*

*Introduction:* Thyrotoxicosis is caused by excessive circulating levels of thyroid hormone. The presentation may be confusing because complaints are non-specific and vague. The condition affects all organ systems. Patients may complain of "not feeling well," fatigue, restlessness, irritability, shortness of breath and/or weight loss. Physical examination may not be helpful unless careful attention is paid to the thyroid gland, which is invariably enlarged. Untreated thyrotoxicosis can lead to thyroid crisis.

*Case:* A 31-year-old African-American male with no significant past medical history complained of fatigue, weakness, shortness of breath, constipation, and a 25-pound weight loss over the past month. Physical examination showed a well-nourished African-American male in no acute distress. He was afebrile, normotensive, and had a pulse of 125. There was no palpable goiter. The rest of the examination was normal. Laboratory work-up revealed normal electrolytes and blood counts. EKG showed sinus tachycardia. The only abnormality noted was an elevated serum calcium of 12.5 mg/dl. The patient was admitted to a general medical bed with telemetry. The following day his temperature rose to 39°C and his heart rate increased to 150. He complained of chest pain and shortness of breath. TSH drawn on admission came back less than 0.01 IU/ml and free T<sub>4</sub> was 5.3ng/dL. He was immediately treated for thyroid crisis with propranolol 80 mg tid and PTU 100 mg tid. Within two days his symptoms had much improved and he was discharged home.

*Discussion:* Thyroid crisis is a rare but serious complication of thyrotoxicosis. Untreated, it is invariably fatal—even with treatment the mortality rate is 20%. Patients need to be monitored closely and therapy started immediately. The crisis results from a hypermetabolic state caused by excessive circulating thyroid hormone. Validated criteria

based on a point system has been published to distinguish simple thyrotoxicosis from thyroid crisis. Patients in crisis are frequently febrile and tachycardic. Hypercalcemia is present in 27% of the patients. Treatment includes supportive measures, beta adrenergic blockade and drugs to interrupt the synthesis of thyroid hormone.

## TICLID-INDUCED NEUTROPENIA

*Sepideh Kazemi, MD, Mark Gennis, MD, Sinai Samaritan Medical Center, Milwaukee, WI*

**Introduction:** Ticlopidine is an antiplatelet agent that irreversibly blocks fibrinogen binding to platelets. It has been used for over a decade for prophylaxis of cerebrovascular thromboembolism and thrombosis of intracoronary stenting. Ticlid has been associated with multiple hematological adverse effects including neutropenia, reported in up to 2.3% of cases. Neutropenia occurs from 1 to 3 months after initiation of the drug and generally resolves within 3 weeks of discontinuing. Monitoring CBSs is recommended every 2 weeks while taking Ticlid and for 2 weeks after stopping. We are presenting a case of severe Ticlid-induced neutropenia occurring over 1 month after the drug was discontinued.

**Case:** The patient is an 89-year-old immigrant from the former Soviet Union, who was started on Ticlid as an outpatient after a presumed TIA. A CBC was obtained 2 weeks after beginning Ticlid and was normal. He took the medicine for 30 days and stopped when the pills ran out. He did not refill the prescription. One month after he stopped Ticlid, he presented with fever and cellulitis of the left foot. His admitting CBC showed a WBC of 400 with 14% PMNs, platelets of 72K and hemoglobin and hematocrit of 13.9/39. He developed pseudomonas sepsis and a pseudomonas necrotizing foot ulcer. He was treated with GCSF, antibiotics, debridement, and skin grafting and left the hospital 1 month after admission. His WBC slowly improved and normalized after 1 week as did his platelet count.

**Conclusion:** This case is unusual in that severe neutropenia developed 1 month after the drug was stopped. Ticlid has a long half-life, which likely was increased due to the patients advanced age. Ticlid must thus be used with particular caution in the elderly and CBC monitored at least for 1 month after its discontinuation.

## THE UNMASKING OF AN ASYMPTOMATIC PITUITARY TUMOR FOLLOWING ANTITHROMBOTIC THERAPY

*Todd J. Kowalski, Gundersen Lutheran Medical Center, LaCrosse, WI*

Pituitary apoplexy is the relatively rare and potentially life-threatening infarction of the pituitary gland. It usually occurs in the presence of pituitary tumor, after obstetric hemorrhage, in the setting of increased intracranial pressure, or following anticoagulation. Prompt recognition and appropriate management of pituitary apoplexy can minimize neurological sequelae, and may be life-saving. This may be especially pertinent in relatively high-risk settings,

such as cardiac care units where intense antithrombotic and thrombolytic therapies are used. The induction of pituitary apoplexy following anticoagulation or thrombolytic therapy has been previously reported. We report another case of hemorrhage into an unbeknownst pituitary tumor following antithrombotic therapy.

A 48-year-old white female was transferred from a local hospital with a 5-day history of atypical chest pain, nausea, vomiting, and elevated cardiac enzymes. She was diagnosed with myocardial infarction and underwent cardiac catheterization with angioplasty and stent placement to her circumflex artery. On hospital day 3 the patient had an episode of polymorphic ventricular tachycardia that required electrocardioversion, and subsequently heparin was added to her antithrombotic regimen of aspirin and clopidogrel. Later that day the patient complained of headache, photophobia, and diplopia, and physical examination revealed a new right-sided cranial nerve VI palsy. Unenhanced head CT was suspicious for sellar mass. MRI could not be performed due to her recent coronary artery stent procedure. Endocrine studies for pituitary dysfunction were normal. On hospital day 6 she progressed to complete right-sided ophthalmoplegia with ptosis, and the following day she developed left-sided cranial nerve VI palsy. The patient emergently underwent trans-sphenoidal resection of the suspected pituitary mass. Pathologic examination revealed a nonfunctioning pituitary adenoma with apoplexy.

## A WOMAN PRESENTING WITH PULMONARY EMBOLISM, RENAL INFARCTION AND MYOCARDIAL INFARCTION

*A.N. Kho, MD, University of Wisconsin Medical School, Madison, WI*

**Case:** A 68-year-old female presented to the emergency department with complaints of nausea and vomiting. Eleven days prior the patient underwent coronary bypass surgery. She was discharged 4 days later with a platelet count of 195,000. Initial laboratory studies at admission revealed a WBC count of 15,400, platelet count of 61,000 and Troponin I of 4.4. Urinalysis was positive for occasional WBCs, 30-60 RBCs, occasional bacteria, but negative nitrite and leucocyte esterase. In the emergency department, an initial diagnosis of pyelonephritis was entertained. A CT scan of the abdomen was ordered, which revealed a possible infarct in the upper pole of the right kidney. Upon return from the scanner, the patient developed dyspnea and decreasing saturation on pulse oximetry and was sent for a ventilation-perfusion scan, which returned with a high probability for pulmonary embolism. Based on the presentation of a renal infarction with pulmonary embolism in the context of a precipitous drop in platelet count, the diagnosis of Heparin-Induced Thrombocytopenia was made. Serum was drawn for heparin-induced platelet antibody and the patient was started on lepirudin anticoagulation. The patient later ruled in by enzymes for a non-Q wave myocardial infarction. The ELISA for Heparin Induced Platelet Antibody against

Factor IV returned strongly positive. The patient was transitioned to coumadin anticoagulation after 3 days of lepirudin and was discharged in good condition after an 8 day hospitalization.

*Discussion:* Heparin-Induced Thrombocytopenia type II is a clinicopathologic syndrome characterized by arterial or venous thrombotic events precipitated by an immune complex formed between heparin and an antibody to platelet factor IV. In type II, platelet count reduction is often below 100,000, and serious thrombotic events can occur, including deep venous thrombosis, pulmonary embolism, myocardial infarction, and peripheral arterial clots. Treatment is the prompt discontinuation of heparin therapy and initiation of antithrombotic therapy with specific thrombin inhibitors such as hirudin or argatroban.

## THE CASE OF THE MISSING IMMUNOCOMPROMISE

*Beverly Ness, MD, and Theresa Seville, MD, Medical College of Wisconsin, Milwaukee, WI*

Candida, while the fourth most common cause of blood stream infection, is an uncommon cause of CNS infection and rarely develops in healthy adults. Presented is the case of a 64-year-old female who was diagnosed with candidal CNS infection. She had been in her usual state of health up until 3 weeks prior to admission when she developed a headache and flu-like symptoms. This progressed to mental status changes and eventually coma. CSF analysis showed a pleocytosis with lymphocytic predominance, normal glucose and elevated protein. A gram stain did not reveal any organisms. A contrast MRI of the brain revealed numerous punctate enhancing lesions involving the white matter of cerebral hemispheres, the pons, and midbrain. An open brain biopsy revealed multiple granuloma/microabscess formation. A Gomorimethenamine silver stain confirmed the presence of yeast and pseudohyphal forms, consistent with Candida species. Blood, CSF and brain tissue cultures failed to grow organisms. A search for the source of candidemia was non-revealing: TTE, TEE, CT scans of the abdomen and pelvis were negative. This patient was treated with a prolonged course of IV amphotericin B alone, as she developed markedly elevated transaminases while on flucytosine. Her condition progressively improved and at time of discharge, 3 months after admission, was able to perform activities of daily living and walk 180 feet with minimal assistance. She is currently continuing therapy with fluconazole. This case is unusual, as the patient does not have any of the known risk factors for candidal CNS infection. Prompt diagnosis and initiation of therapy resulted in a good outcome in this patient who had potentially disabling and life-threatening illness.

## THE CASE OF THE DYSFUNCTIONAL BONE MARROW

*Amy Stella, MD, University of Wisconsin Medical School, Madison, WI*

*Case Presentation:* Mr. B is a 37-year-old man who presented with a 4-month history of dyspnea on exertion,

fatigue, cough, and low-grade fevers. On exam he had bibasilar rales, a hyperdynamic precordium with a right ventricular heave, a wide fixed split S2 and a harsh 3/6 systolic murmur over the left upper sternal border. He had cervical and axillary adenopathy as well as splenomegaly. He was anemic with a hemoglobin of 7.8, thrombocytopenic, and had a leukocytosis with 33% monocytes and 6% blasts. A bone marrow biopsy was consistent with MDS, specifically CMML with monosomy 7. He was also diagnosed with an ASD with bi-directional shunting and right ventricular hypertrophy with severe pulmonary hypertension. His MDS quickly transformed into acute myelomonocytic leukemia confirmed by bone marrow biopsy.

*Discussion:* MDS is a preleukemic state manifested by ineffective hematopoiesis. The cause is generally unknown. Prognosis is determined by cytogenetic abnormalities, percentage of blasts in the bone marrow, and number of cytopenic cell lines. The median survival of patients with the best prognosis is over 5 years, and those with the worst less than 6 months. Anywhere from 30% to 75% of patients with poor prognostic characteristics transform into AML. MDS is diagnosed by the clinical presentation and peripheral cytopenia with characteristic bone marrow findings. It is further classified as refractory anemia, refractory anemia with ringed sideroblasts, refractory anemia with excess blasts, chronic myelomonocytic leukemia and refractory anemia with excess blasts in transformation. Specifically, CMML is characterized by splenomegaly, peripheral monocytosis, <5% peripheral blasts and up to 20% blasts in the marrow. Treatment is with chemotherapy used to treat AML but there is a lower rate of complete remission, a shorter duration of remission and a higher rate of relapse. Attempt for cure is with an HLA-matched allogeneic bone marrow transplant. Supportive care with transfusions of blood products and hematopoietic hormones such as erythropoietin and G-CSF may be used. This patient underwent surgical correction of his ASD followed by an HLA-matched allogeneic BMT donated by his sister and is thus far doing well.

## COCAINE INDUCED THROMBOTIC THROMBOCYTOPENIC PURPURA

*Kannappan A, Solis J, and Gennis M, Sinai Samaritan Medical Center, Milwaukee, WI*

*Case 1:* A 52-year-old African American male presented with abdominal pain and passing dark urine 5 days after smoking crack cocaine. He had a temperature of 99°F and significant conjunctival pallor. Initial labs revealed Hb of 5.8; Hct of 16; platelet count of 23,000; Creatinine 2.1; bilirubin 2.0 and LDH 3220. Peripheral smear showed numerous schistocytes and Coomb's test was negative. Urine analysis showed hemoglobinuria. A diagnosis of Thrombotic Thrombocytopenic Purpura was made and patient was started on plasma exchange for 14 days until his platelet count and LDH normalized.

*Case 2:* A 41-year-old African American female — a frequent cocaine user—presented with abdominal pain, nau-

sea, and vomiting. Her initial labs were a platelet count of 7000; LDH of 2656; Hb of 12.1; hct of 35, which dropped to 24 the following day, and bilirubin of 3.0. Peripheral smear showed numerous schistocytes and Coomb's test was negative. Her urine tox screen was positive for cocaine. Subsequently she was diagnosed with TTP and was started on plasmapheresis. After 8 days her platelet count was normal.

*Discussion:* Cocaine can affect multiple organ systems. It is a known cause of thrombocytopenia and acute renal failure. The association of cocaine with microangiopathic hemolytic anemia and TTP is rare with just 2 cases reported in literature. The pathophysiology, molecular and immunological bases for this are poorly understood. Possible mechanisms include endothelial injury from vasoconstriction and enhanced antiplatelet activity. In conclusion, our two cases should alert physicians that cocaine should be recognized as a possible cause of TTP.

## ERLICHIOSIS AS AN EMERGING TICK-BORNE ILLNESS

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*Background:* Human Granulocytic Ehrlichiosis is a potentially fatal and increasingly common tick-borne infection that is recently becoming more prevalent in endemic areas. Myalgias, thrombocytopenia, elevated liver enzymes and leukopenia describes the acute febrile illness. Initial diagnosis is difficult as symptoms are nonspecific, serologies are often times initially negative and Morulae (intracellular inclusions) may not be seen.

*Objective:* To discuss the epidemiology and clinical presentation of HGE. To show that this tick-borne illness is getting more prevalent but underdiagnosed and is a reportable case in Wisconsin.

*Case Presentation:* A 67-year-old male referred for evaluation of 4 days of fevers/chills (103°F), fatigue and recent history of outdoor activities (without any recall of a tick bite). Initial labs showed normal WBC, followed by leukopenia, a left shift, thrombocytopenia and rising LFTs. He was treated with I/V Rocephin for 3 days without any benefit. Morulae were spotted on peripheral blood film and a treatment of doxycycline 100 mg PO initiated with rapid clinical improvement within 36 hours, although patient was found to be seronegative.

*Discussion:* HGE is now a reportable disease and is prevalent in the endemic areas (NW WI, CT and Northern MN). Transmission is by deer tick (*Ixodes scapularis*). Common clinical findings are acute onset of high fever/chills, myalgias and headaches. Labs show gradual leukocytopenia, left shift, thrombocytopenia, and abnormal LFT. Infection has been reported to occur in conjunction with Lyme disease and can cause false positive Lyme test. Reinfection is reported.

## HIATAL HERNIA: FROM THE ABDOMEN TO THE THORAX

*Ellena L. Henderson, MD, Medical College of Wisconsin, Milwaukee, WI*

My patient is an 84-year-old African American woman

who presented with complaints of progressive dyspnea at rest, fatigue, and early satiety for 2 months. An echocardiogram revealed an extracardiac mass obliterating portions of the left and right atrium. LV function was normal.

Radiographic evaluation, most importantly UGI, revealed herniation of the stomach to the proximal duodenal bulb into the thorax. Surgical intervention is the only treatment in this situation. The patient was warned of the complications of foregoing such treatment including obstruction, strangulation, incarceration, perforation, and death. She refused surgery and was discharged home.

A hiatal hernia is defined as a prolapse of a portion of the stomach through the diaphragmatic esophageal hiatus. It may be congenital or acquired. Acquired forms are further classified into traumatic and atraumatic. The types of atraumatic hernias include hiatal (sliding), paraesophageal (rolling), mixed, and the intrathoracic stomach.

Stomach migration into the thorax involves rotation about its long axis, which keeps the lesser curvature in the abdomen. The greater curvature is therefore mobile and able to rotate about this axis anteriorly and upward. As the defect enlarges, the fundus, body, and antrum herniate into the chest (cardia and pylorus remain in the abdomen). This results in the stomach residing in a "upside down" position in the thorax.

## IT WAS NOT AT ALL CLEAR: AN UNUSUAL CAUSE OF NEW ONSET ASCITES

*Jeannina Smith, University of Wisconsin Medical School, Madison, WI*

*HPI:* The patient is a 72-year-old woman referred for rapidly progressive abdominal distention and lower extremity swelling over the previous 2 weeks. An ultrasound of the abdomen showed a large amount of ascites and a normal liver.

*Pertinent recent PMH:* The patient had been in her usual state of health until 3 months prior when she experienced the sudden onset of severe low back pain. A CT scan of the abdomen revealed a 12cm leaking AAA with a large retroperitoneal hematoma. She subsequently underwent an emergent AAA repair. Her post-operative course was complicated by pulmonary embolism and bilateral lower extremity DVTs. She was started on an unfractionated heparin drip. A left upper extremity PICC line was placed for TPN administration and she also developed a catheter associated subclavian DVT. She was noted to have progressive thrombocytopenia. At that point, heparin antibodies were found to be present. She was switched from heparin to hirudin and coumadin. She was discharged after her INR was in therapeutic range. TPN and hirudin were stopped on her discharge. One month after discharge she complained of increased lower extremity swelling. Her INR was found to be subtherapeutic. Ultrasound showed persistent lower extremity clot, so she was started on enoxaparin as a bridge for 2 days until her INR was again therapeutic.

*Hospital course:* Given her history, it was initially feared that she had ascites secondary to Budd-Chiari syndrome or

hepatic vein thrombosis secondary to the hypercoagulable state induced by her heparin induced thrombocytopenia syndrome. Paracentesis was performed. This revealed thin, milky white fluid, which was rich in triglycerides.

Diagnosis of chylous ascites was made. A CT of the abdomen failed to reveal any compression of the thoracic duct, mass, or inflammation. Patient was started on TPN and a medium chain triglyceride diet. On follow-up her ascites had resolved and she was feeling well.

*Discussion:* Chylous ascites is an unusual phenomenon characterized by leakage and sequestration of large volumes of chyle in the peritoneal cavity. It can have multiple serious consequences in the following areas: nutritional, immunologic, and mechanical. In most cases, chylous ascites is associated with intra-abdominal malignancy or inflammation. Elemental diet supplementation or TPN may be used to minimize lymphatic drainage and promote healing of the lymphatics. Additionally, since medium chain triglycerides are absorbed directly into the portal venous system, a medium chain triglyceride diet may be used. Conservative approach is favorable, but if that is not successful, operative management to ligate the offending lymphatics can be undertaken. However, operative management is associated with significant morbidity.

## A MAN WITH THE BLUES

*Karen Fickel, MD, Medical College of Wisconsin, Milwaukee, WI*

Cyanosis is common among hospitalized patients. Hypoxia is frequently the cause, but multiple etiologies exist. This report addresses the evaluation and treatment of a 76-year-old Caucasian man with methemoglobinemia secondary to topical anesthesia used during a transesophageal echocardiogram.

A brief differential diagnosis of central and peripheral cyanosis is followed by a discussion of the etiology, presentation, diagnosis, and treatment of methemoglobinemia.

Methemoglobinemia is rare. However, many common medications and chemicals induce oxidant stress and may create even lethal levels of methemoglobin.

This case demonstrates the importance of early recognition and treatment of methemoglobinemia.

## VARICELLA PERICARDITIS

*Joaquin Solis, MD, Medical College of Wisconsin, Milwaukee, WI*

*Educational Objective:* Recognize complications of Varicella infection in the adult.

*Case:* A 21-year-old African American male was diagnosed with Varicella 1 week prior to presenting to the emergency department. He was complaining of fever, generalized myalgia, and neck rigidity. Lumbar puncture as well as CXR done in ER were both completely normal and he was discharged home with supportive care. Two days later he presented with severe chest pain and shortness of breath. He was found to be in respiratory distress, febrile, tachycardic with a loud pericardial friction rub. His skin showed multiple disseminated crusted lesions. Chest

roentgenogram showed bilateral interstitial infiltrates as well as an increase in cardiac silhouette. An echocardiogram confirmed the presence of moderate pericardial effusion with normal left ventricular function and no evidence of tamponade. A diagnosis of Varicella pneumonia with Pericarditis was made on bases of clinical findings and viral titers. Repeat echocardiogram day 5 showed no change. The patient required mechanical ventilation due to respiratory failure and ARDS. Ten days after admission to the ICU he developed pericardial tamponade and despite aggressive supportive measures including pericardiocentesis succumbed.

*Discussion:* Cardiac complications from Varicella include acute pericarditis, myocarditis, and arrhythmias but are exceedingly rare. They appear in teenagers and young adults, and it has been linked to other complications as pneumonia or arthritis. Acute pericarditis has been described few times in the literature associated with superimposed Staph infections. It generally has a benign course if myocarditis or pericardial effusion are not present. When associated with myocarditis, manifestations may range from arrhythmias to fulminant cardiac failure and/or cardiac tamponade. Though rare, adults with Varicella who clinically deteriorate should be evaluated for cardiac complications, especially if pneumonia or arthritis are present.

## RESPIRATORY DISTRESS AND HEMOPTYSIS IN A PATIENT WITH AIDS

*Jeffrey K. Bahr, MD, Medical College of Wisconsin, Milwaukee, WI*

The patient was a 42-year-old man with a history of AIDS and several episodes of community-acquired pneumonia. While being treated for one such episode, he developed respiratory distress and frank hemoptysis. Despite mechanical ventilation and pressor support, the patient's course did not improve and he died.

Autopsy revealed disseminated Kaposi's sarcoma (KS) involving multiple organ systems. While KS is the most common AIDS-related neoplasm in the United States, hemoptysis is not the most common presenting symptom. Additionally, the diagnosis of pulmonary KS can be particularly challenging.

## CASE PRESENTATION OF PARADOXICAL AIR EMBOLISM

*Linda Blust, MD, Medical College of Wisconsin, Milwaukee, WI*

A 34-year-old African American male presented to the Emergency Department complaining of chest pain and shortness of breath. The symptoms began when a family member was cleaning his dialysis catheter and it cracked. Shortly after presentation, he became combative, required restraints, and then became obtunded. Physical exam was remarkable for hypertension, hyper-reflexia, positive Babinski bilaterally, and clonus. Infectious, cardiac, and pulmonary work-ups were negative.

An MRI was obtained, which revealed increased signal intensity in watershed areas bilaterally consistent with

ischemia. TTE was performed, which was negative for vegetations or patent foramen ovale. In light of the negative work-up for common etiologies, the diagnosis of paradoxical air emboli causing neurologic injury was made.

Early in his hospital course, patient developed refractory hypertension and seizure activity and was transferred to the ICU numerous times. However, over the ensuing 6 weeks, he slowly improved, participated in physical therapy, and returned home.

A brief discussion of air embolism follows. Venous embolism is the most common form of air embolism. Injury results when large volumes of air occlude pulmonary vessels causing infarct, or cardio-vascular collapse. Diagnosis can be made by echocardiogram if air remains in the cardiac chambers. Treatment is primarily supportive.

Arterial embolism occurs during barotrauma, cardio-vascular bypass, or surgical procedures utilizing gas-insufflation. Injury is most common in the heart or brain due to obstruction of end arteries and vasogenic edema. Diagnosis is made primarily by history, but may be supported if air bubbles are visible in the retinal arteries. Treatment is supportive, with hyperbaric oxygen having been shown to be useful.

Paradoxical air embolism occurs when the patient has a patent foramen ovale, or when the pulmonary vasculature is unable to adequately filter a constant flow of micro-emboli. Injury occurs from end artery occlusion. Treatment includes supportive therapy and hyperbaric oxygen.

## CHRONIC PAIN REHABILITATION

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