MISSOURI HOSPITALIST SOCIETY

Publisher:

Division of General IM

University of Missouri

Columbia, Missouri

Editor:

Robert Folzenlogen MD

MISSOURI HOSPITALIST

Issue 20 August 20, 2009

Inside this issue:

Hospitalist Update

Tips for Managing Older Adults with Parkinson's Disease or other Parkinsonian Disorders during Hospitalization

Kyle Moylan MD

Hospitalists manage many geriatric patients and one of the most challenging populations can be older adults with Parkinson's Disease (PD) or other Parkinsonian disorders. These patients are prone to complications such as delirium, falls and adverse effects of medications. However, there are some basic principles that may improve our efforts to care for them.

Home Medications. Patients with PD often take complex medication regimens, using agents with which internists may be unfamiliar. Commonly prescribed antiparkinsonian medications include carbidopa/levadopa (Sinemet), dopamine agonists [pramipexole (Mirapex), ropinirole (Requip)], COMT inhibitors [entacapone (Comtan)] and MAO inhibitors (selegiline and rasagline). Patients often take these mediations on complex schedules that have been developed over years and may have problems with parkinsonian symptoms, dyskinesias or other adverse effects if the medications are not taken as prescribed. The home dosing schedule should be replicated in the hospital setting and should involve coordination with nursing and pharmacy, with orders specifying the exact times of medication administration (rather than typical TID or QID dosing). Antiparkinsonism drugs should not be stopped abruptly as severe parkinsonism may ensue, including a "locked-in" rigid-bradykinetic state or even Neuroleptic Malignant Syndrome.

Medications to Avoid. The most important point to remember is that patients with parkinsonian disorders should not receive dopamine blocking drugs, including many antiemetics and antipsychotics, since they will exacerbate parkinsonian symptoms. Nausea is a common problem in PD and a side effect of Sinemet and other drugs; however, medications that block dopamine such as prochlorperazine (Compazine), promethazine (Phenergan) and metocloperamide (Reglan) should be avoided. 5-HT3 receptor antagonists (ondansetron and others) can be used safely to control nausea. Delirium and psychosis are also frequently encountered in hospitalized older patients with PD but conventional antipsychotics such as haloperidol should be avoided. While atypical and second generation antipsychotics have less extrapyramidal (cont)

(cont) side effects, they can still exacerbate parkinsonism. If antipsychotic therapy is needed, quetiapine (Seroquel) is often well tolerated in low doses (starting with 12.5-25 mg) by PD patients. Given their propensity to develop delirium, older PD patients should not be treated with anticholinergic agents or benzodiazepines, since they may trigger or exacerbate acute confusion and delirium.

Nonpharmacologic Interventions. Patient with parkinsonism are prone to orthostatic hypotension, constipation, urinary difficulties, falls and deconditioning. Inpatient care should include a plan for early and daily mobilization with early involvement of physical and occupational therapists. Indwelling catheters and other tethers should be avoided. Nonmotor complications of PD, such as constipation, depression and orthostatic hypotension are generally treated as with other patients. For patients with longstanding PD, complex medication regimens, disease complications or inability to take oral medications, early involvement of the patient's neurologist or expert in movement disorders is advised.

HOSPITALIST CONFERENCE & LUNCHEON

MISSOURI ACP MEETING

SATURDAY, SEPTEMBER 26, 12:15 PM

TAN-TAR-A RESORT, LAKE OF THE OZARKS

TOPIC: HOSPITAL ACQUIRED INFECTIONS

http://www.acponline.org/meetings/chapter/mo-2009.pdf

CASE OF THE MONTH

Ahmad Tuffaha MD, UMKC

P-ANCA Vasculitis in a Patient with Alpha-1-Antitrypsin Deficiency: A Possible Mechanism

Introduction:

Antineutrophil cytoplasmic antibody (ANCA) testing plays a critical role in the diagnosis and classification of vasculitis. These antibodies are strongly associated with Wegener's granulomatosis, microscopic polyangiitis and Churg-Strauss syndrome. They are directed against a variety of autoantigens, including proteinase 3 (PR3) and myeloperoxidase (MPO) [1]. On the other hand, alpha-1-antitrypsin (AAT) is the major inhibitor of PR3 while MPO is an inhibitor of AAT. It is well known that AAT deficiency is associated with emphysema and liver disease. The protein is encoded by a gene with multiple different alleles classified by the protease inhibitor (PI) system (PI*MM = homozygous normal, PI*ZZ = homozygous deficient). The PI*ZZ phenotype carries a high risk for development of emphysema and liver disease [2]. (continued, page 3)

(continued)

Case Report:

A 50 year old white female presented with progressive myalgia involving the lower extremities, associated with malaise and anorexia. She complained of bilateral jaw pain with chewing but had no abnormalities of vision. She did not have cardiopulmonary or upper respiratory symptoms. She eventually developed numbness of the lower extremities and a left-sided foot drop, consistent with mononeuritis multiplex. The patient was known to be homozygous for the PP*ZZ phenotype of ATT deficiency. However, she did not have any evidence of active lung or liver disease. Her past medical history was also significant for hypothyroidism and migraines. Family history was remarkable for ATT deficiency in her sister, who had both emphysema and liver cirrhosis.

Physical exam revealed a left sided foot drop and decreased sensation to light touch distal to the knees. No other neurologic deficits were identified. Small knee effusions were evident but no rash was observed.

Testing for p-ANCA and anti-MPO antibodies yielded positive results. Her CRP was 48 mg/dl and her ESR was 85mm/hr. Temporal artery biopsy was normal. The patient was diagnosed with ANCA associated vasculitis and treated with prednisone and cyclophosphamide. Her symptoms resolved and her foot drop markedly improved within 6 months.

Discussion:

The biologic mechanisms which result in this association are unknown but it has been postulated that AAT deficiency leads to increased PR3 in a pro-inflammatory environment [3,4]. On the other hand, AAT is inactivated by the release of myeloperoxidase from activated neutrophils. Any mechanism that inactivates MPO would result in increased AAT activity. This might mean that antibodies directed against MPO may interfere with its function and result in amplified AAT activity (and a lowered risk of tissue damage in AAT deficiency); this could explain the lack of emphysema in this patient. In other words, it is known that patients with PI*ZZ phenotype have an AAT activity level that is 10-20% of normal. Anti-MPO antibodies inhibit MPO mediated inactivation of AAT, resulting in higher levels of AAT activity (above the 10-20% range), which may protect against the development of early onset emphysema, commonly associated with the PI*ZZ phenotype.

This case thus highlights the association between two relatively rare diseases and postulates a mechanism for this association. It also helps us to understand the nature of autoimmune disease and the potential for future treatment modalities.

Correspondence: Ahmad Tuffaha MD, Truman Medical Center, Department of Internal Medicine, 2301 Holmes St., Kansas City, MO 64108, Fax: 816-404-5014, email: tuffahaa@umkc.edu

References:

1. Sghiri et al., Antineutrophil cytoplamsic antibodies and associated diseases, Pathol Biol, July, 2009; 57:398-402
2. Camelier et al., Alpha-1 antitrypsin deficiency: diagnosis and treatment, J Bras Pneumol, July, 2008; 34:514-27
3. Patterson et al., Alpha–1 antitrypsin deficiency and Henoch-Schonlein purpura associated with anti-neutrophil cytoplasmic and anti-endothelial cell antibodies of immunoglobulin-A isotype, J Cutan Pathol, Apr 2005; 32:300-306
4. Adrian et al., Analysis of ANCA: Frequency and specificity in a sample of 191 homozygous PI*ZZ alpha-1 antitrypsin deficient subjects, Nephrol Dial Transplant, 2001; 16:39-44

FROM THE JOURNALS — Dilip Bearelly MD

The following articles should be of interest to hospitalists:

Thrombolytic therapy for venous thromboembolism: Current Clinical Practice

Stashenko, GJ et al., Journal Hospital Medicine, Volume 4, Issue 5, pages 313-316

http://www3.interscience.wiley.com/cgi-bin/fulltext/122240084/PDFSTART

Hospitalists and the Quality of Care in Hospitals

Lopez, L et al., Archives Internal Medicine, 2009; 169 (15): 1389-1394

http://archinte.ama-assn.org/cgi/content/short/169/15/1389?home

Yield of Diagnostic Tests in Evaluating Syncopal Episodes in Older Patients

Mendu, ML et al., Archives Internal Medicine, 2009: 169 (14): 1299-1305

http://archinte.ama-assn.org/cgi/content/abstract/169/14/1299

ID CORNER — William Salzer MD

The origins of the current H1N1 Swine Flu

The following article nicely explains how the current epidemic strain of swine flu came to be:

Zimmer SM, DS Burke, Historical perspective: Emergence of Influenza A (H1N1) viruses

NEJM 2009; 361:279-285

http://content.nejm.org/cgi/reprint/361/3/279.pdf

MISSOURI HOSPITALIST SOCIETY

University of Missouri
Division of General Internal Medicine DC043
1Hospital Drive
Columbia, MO 65212

folzenlogenr@health.missouri.edu

MISSOURI HOSPITALIST CALENDAR

19th Annual Conference, Caring for the Elderly, Missouri Association of Long-Term Care Physicians, August 21-22, Holiday Inn Select Executive Center, Columbia; call 573-882-0366 or visit the CME website at www.som.missouri.edu/CME; **LOCAL**

Advances in Management of the Critically Ill Patient, Washington University, St. Louis Marriot West, September 12, http://cme-online.wustl.edu; **LOCAL**

Missouri ACP Meeting, September 24-27, Tan-Tar-A Resort, Lake of the Ozarks; Hospitalist Conference Luncheon on Saturday, September 26, 12:15 pm; topic: Hospital Acquired Infections; see ad on page 2 of this newsletter. **LOCAL**

Hypertension & the Cardiometabolic Syndrome, October 15, 2009, Hampton Inn & Suites, Columbia, MO, University of Missouri Department of Medicine, call 573-882-0366 or visit www.som.missouri.edu/CME; **LOCAL**

CHEST 2009, October 31-November 5, San Diego; information and registration online at www.chestnet.org

The Academic Hospitalist Academy: Essential Skills for Education, Scholarship and Professional Success, Society of GIM, November 8-11, Atlanta, Peachtree Conference Center; for more info, contact Amy Woodward, woodwarda@sgim.org

---

Please direct all comments, ideas and newsletter contributions to the Editor:

Robert Folzenlogen MD, folzenlogenr@health.missouri.edu