Dear colleagues:

As I was compiling this issue of the Academic Physician Quarterly and thinking how lucky we are to have had a pleasant winter season, I couldn’t help but remember a quotation from a great and arguably the first American poet, Ann Bradstreet, who in 1655, had this to say about winter: “If we had no winter, the spring would not be so pleasant: if we did not sometimes taste of adversity, prosperity would not be so welcome”. It is likely that Ms. Bradstreet did not spend any of her winters in Jacksonville. In this town we are blessed with pleasant spring and winter seasons.

I am delighted to report to you that the Department of Medicine is doing exceptionally well. We have had a series of unprecedented successes including establishing of training programs in every subspecialty, increasing research productivity, inaugurating a state of the art inpatient research unit and maintaining black bottom-line. Nevertheless for the first time, I have to report the loss of an important resource for the Department. It is with sadness that I announce the resignation of Dr. N. Stanley Nahman, Jr., effective April 30th, 2010.

Dr. Nahman has been a pillar of the Department for the last 6 years and a personal friend of mine. He led the Division of Nephrology and the Core residency program into nationally recognized levels. His departure is indeed a major setback. On behalf of the Department, I would like to express my sincere gratitude for all his contribution and wish him and his wife, Dr. Beverly Nahman, happiness and success in their newly adopted home of Augusta, Georgia.

Thank you for your interest and continued support of our programs.

Arshag D. Mooradian, M.D.
Professor of Medicine
Chairman, Department of Medicine
Nosocomial infections, pay for performance and role of the Infectious Disease (ID) consultant

Nosocomial infection or healthcare associated infection (HAI) is defined by the Centers for Disease Control (CDC) as a localized or systemic condition resulting from an adverse reaction to the presence of an infectious agent(s) or its toxin(s) and a condition which is not present or incubating at the time of admission. These infections are easily preventable and can result in improved patient outcomes. In addition beginning October 1, 2008 Medicare does not pay hospitals for infections such as catheter associated urinary tract infections, vascular catheter associated infections and mediastinitis after coronary artery bypass graft surgery.

In this brief review, urinary tract infections (UTIs), vascular catheter associated infections and ventilator associated pneumonia are discussed.

Urinary tract infection (UTI):

UTIs comprise about 40% of the nosocomial infections in the United States. Incidence of acquiring an UTI increases at about 5% per day of catheterization. Each episode of UTI is estimated to cost from about $675 for an UTI alone to $2800 for UTI complicated with bacteremia. UTIs can be divided broadly into 2 types: Asymptomatic and symptomatic UTI. Asymptomatic UTI includes positive urine culture (>100,000 colonies /ml) in the absence of symptoms. Symptomatic UTI includes positive urinalysis and urine culture in the presence of symptoms such as fever, urgency, suprapubic tenderness and dysuria. In addition to E.coli, the causative organisms also include other bacteria such as Enterococcus, Candida, Klebsiella, Pseudomonas and Proteus spp. Important risk factors include urinary catheterization, diabetes, female sex, absence of use of a urinometer and improper catheter care. UTI can be complicated with bacteremia, renal failure, chronic renal insufficiency, urinary stones and in certain cases death. The cornerstone of UTI prevention is removal of catheters whenever feasible. Instituting catheter reminders has been demonstrated to be of benefit. Other methods are using condom catheters, suprapubic catheters, intermittent catheterization and use of silver coated catheters. All have demonstrated reduced rates of infection and more patient comfort as compared to indwelling catheter in small studies.

Vascular catheter associated infections:

About 3 million Central venous catheters (CVCs) are used annually in the US. Incidence of CVC infections range from 0.5 catheter related bloodstream infections/ 1000 catheter days for peripheral lines to 2.7 for short term CVCs [Edgeworth J, Intravascular catheter infections, J Hosp Infect (2009)]. Infection can occur from defective containers, malfunctioning inlet filter, infection at set-catheter junction or at the time of catheter insertion. Most common organisms are coagulase negative staphylococci, Staphylococcus aureus followed by others such as gram negative rods, Candida and Enterococcus. Formation of biofilms is an important mechanism of pathogenesis. Biofilms reduce antibiotic penetration resulting in reduced activity, development of resistance, impair host defenses by diminishing activity of the neutrophils and macrophages [Hall-Stoodley L et al; Evolving concepts in biofilm infections. Cell Microbiol. 2009;11:1034]. Catheter infection is suspected if there is fever, exit site erythema, drainage, tenderness or malfunctioning of the catheter. In such cases blood culture must be drawn, catheter removed and tip sent for culture. A positive tip culture with concurrent positive blood culture confirms the diagnosis. Use of aseptic technique at the time of insertion is essential to preventing these infections. Chlorhexidine is more favorable than povidone iodine as a method of skin preparation. Other modalities such as antibiotic impregnated catheters may be considered in high risk settings such as intensive care units, burn units. Antibiotic lock prophylaxis (vancomycin/heparin or vancomycin/ciprofloxacin/heparin) is not recommended by Infectious Diseases Society of America (IDSA) due to concerns regarding emergence of resistance. IDSA guidelines recommend changing peripheral intravenous lines at 72-96 hours and disposable transducers in arterial lines at 96 hours. These guidelines do not recommend routine changing of long term accesses such as PICC lines or HD catheters unless infection is suspected.
**Ventilator associated pneumonia (VAP):**

VAP is defined as pneumonia developing in a ventilated patient after 48-72 hours and is divided into 2 types: early onset (<5 days), and late onset (>5 days). Risk of acquiring VAP is highest in the first few days after intubation. Usual microorganisms are Pseudomonas aeruginosa, E.coli, Klebsiella pneumoniae, Acinetbacter spp, Stenotrophomonas maltophilia, Staphylococcus aureus and oropharyngeal flora. Patients at higher risk of acquiring this disease are those living in a healthcare facility like a nursing home, having received antibiotics in the preceding 30 days, chronic dialysis and home infusions. Diagnosis is established by presence of clinical signs of pneumonia such as color and consistency of endotracheal secretions, chest radiography, positive cultures from the endotracheal aspirate, BAL or protected brush specimen. Useful strategies to prevent VAP are head elevation to more than 30 degrees, oral decontamination with chlorhexidine, reduction of gastric acidity with agents such as sucralfate and subglottic aspiration of secretions.

**Antimicrobial stewardship:**

Increasing drug resistance amongst microbes is disconcerting since the available drugs to treat drug resistant infections are few [Bad Bugs, No Drugs: No ESKAPE! An Update from the Infectious Diseases Society of America; CID 2009:48 (1 January)]. Antibiotic stewardship programs (ASP) can play a significant role in reducing the drug resistance in the hospital by direct feedback to the physicians writing the antimicrobial orders, formulary restriction, preauthorization, education, de-escalation of therapy and optimizing doses among others. ASP team typically consists of an ID physician, ID pharmacist, infection control personnel, clinical microbiologist, hospital epidemiologist and information technology. However, it is worth emphasizing hand washing remains an easy and effective way of decreasing spread of nosocomial infections. ID consultation has been demonstrated to reduce mortality associated with Staphylococcus aureus associated bacteremia. Adherence to ID recommendations is improved if the recommendations are specific providing a defined end point such as resolution of fever, leucocytosis and sterilization of blood cultures to list a few.

In summary, nosocomial infections are expensive, are easily preventable and improve patient morbidity and mortality. ASP can play a vital role, so can the ID consultant.

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**GME CORNER**

**Jeffrey House, D.O.**

Assistant Professor of Medicine, General Internal Medicine

Associate Program Director, Internal Medicine Residency

As the 2009-2010 academic calendar matures, there are several updates in the internal medicine training program. First off, we have recently received the resident’s inservice exam scores and are very proud of their marks. This is the first time in recent history that the program has ranked in the 50th percentile compared to the national composite scores. This is indeed a remarkable achievement and a testament to how hard the trainees are studying. In the arena of scholarly activity, special recognition goes to Drs. Salahuddin and Zhou for their recent poster presentations at the Southern AFMR. The Florida ACP convention is also nearing and several residents will be representing UF Jacksonville there as well. Drs. Atman Shah and Sudha Koduru will both be giving oral presentations, while our Jeopardy team is looking to continue their winning ways. Resident scholarly endeavors such as these continue to give other institutions a great impression of our program.

On the recruiting front, we have recently concluded the interview process for the upcoming resident class of 2010. The applicant pool was at a record high this year; exceeding 3,600! After reviewing numerous strong candidates we were able to interview roughly 200 students for 17 positions, which was no easy task. We have had several responses from the applicants following their visits and have found them quite complementary about the residents, faculty, and overall teaching environment. We would like to thank those of you who were able to participate and we sincerely appreciate the good light that you put us in. Our rank list was recently completed and we anxiously await our match results later this spring.
Finally; to many people, March signifies the beginning of spring, college basketball, or children’s breaks from school. To us in the GME office, March is marked by our annual Evaluation of Educational Effectiveness meeting. Here we review inservice exam results as well as the numerous surveys that residents and faculty have completed. This data is used to evaluate not only successful areas of the program but most importantly areas of opportunity. Your observations noted in these surveys shape programmatic changes for the upcoming academic years.

On a sad note, as was previously noted by Dr. Mooradian in the “Chairman’s Message”, we will be losing a great leader from the Department of Medicine and in Graduate Medical Education. Dr. Nahman, who will be moving to Augusta Georgia, has been more than instrumental in helping this program reach its current lofty heights. A good leader is one who is able to motivate people into advancing agenda because they want to, not because they are told to. As our director, Dr. Nahman has used these charismatic leadership qualities to advance this program through trying times and put trainees in a position to excel both clinically and academically. As we move forward, I will be transitioning to the new role as Program Director and Christina Bailey, M.D. will be joining us as Associate PD. We, along with Senthil Meen­raj, M.D., look forward to continuing the current academic mission as well as facing the new challenges that will surely come. What Dr. Nahman and his staff have done over the last 6 years has been nothing short of remarkable and we plan to build upon the strong foundation that he has laid down.

A CLINICAL CASE

Karishma Ramsubeik, MD - Resident, Internal Medicine
Ravindra Maharaj, MD - Resident, Internal Medicine
Ghaith M. Mitri, MD - Chief, Rheumatology
(Adapted from J Musculoskel Med. 2009;26:11-14)

When diagnosis of rheumatologic disease does not "follow the book"

Not all patients with symptoms suggestive of a rheumatologic disease leave their doctor’s office with a firm diagnosis in hand. Although disease classification and diagnosis guidelines are available to help physicians evaluate their patients, a rheumatologic disorder can present atypically, or the patient might not have all of the criteria needed to unequivocally support a given diagnosis. Also, the clinical picture may change as the disease progresses from early to middle and late stages. Consider, too, that many physicians practice in areas where specialists are not available to consult on cases that are especially challenging or questionable.

Thus, the process of arriving at an accurate diagnosis often is an imprecise art. The physician may revisit evidence, assess the patient at intervals, test response to treatment, consult with colleagues, and rely on past experiences rather than primarily on a published list of diagnostic criteria to confirm his or her clinical suspicions.

Scleroderma (systemic sclerosis) is a rheumatologic disorder that can be mistaken for rheumatoid arthritis (RA) or mixed connective tissue disease. Accurate diagnosis influences assessment of the patient’s prognosis as well as the choice of management. In this article, we use a scleroderma case study to highlight the potential for misdiagnosis of a rheumatologic condition and demonstrate potential pitfalls the physician might encounter when evaluating patients.

CASE PRESENTATION

MJ is a 62-year-old man with pulmonary fibrosis. In 2006, he was referred by his primary care physician to the rheumatology clinic with a provisional diagnosis of mixed connective tissue disease and RA. The patient had a 30-year history of the following rheumatologic symptoms: diffuse skin tightness; general fatigue; sicca syndrome; Raynaud phenomenon; and constant, moderately severe bilateral hand pain. The hand pain worsens in the mornings, when MJ’s hands are also stiff for about an hour.

FINDINGS

On examination, the patient had no skin tightness. However, Velcro rales were audible at the lung bases. MJ exhibited contractures of his fingers, primarily at the level of the proximal interphalangeal (PIP) and distal interphalangeal (DIP) joints. His fingertips had pitting scars, and his distal finger pads lacked substance.

Laboratory test results completed at this visit were as follows: antiglomerulonephritis (Scl) 70 antibody, 684 U/mL (normal range, 0 to 99 U/mL); white blood cell count, 5000/μL; ery-
thrombocyte sedimentation rate, 110 mm/h; C-reactive protein level, 38 mg/L (normal range, less than 5 mg/L); blood urea nitrogen level, 14 mg/dL; creatinine level, 1 mg/dL; rheumatoid factor (RF), positive; and antiribonucleoprotein (RNP) antibody, negative.

Chest radiographs showed a diffuse interstitial pattern predominantly involving the lung bases. Radiographs of the hands showed erosive osteoarthritis with degenerative changes in the distal interphalangeal joints and resorption of distal phalangeal tufts, which is highly suggestive of scleroderma and typically not seen in rheumatoid arthritis without an overlap.

There were no erosive changes to suggest RA (Figure 1). CT of the chest revealed bibasilar parenchymal opacities (Figure 2). It is important to note that the x-ray film nor the CT scan findings are specific for scleroderma. Results of repeat RF testing performed on the day of evaluation were negative.

The patient's physician made a diagnosis of scleroderma with positive anti-Scl 70 antibody based on the following findings from the history and physical examination: the presence of diffuse cutaneous scleroderma in the early stages; nonerosive arthritis with tendinopathy and contractures; severe Raynaud phenomenon, with fingertip ulcerations, pitting scars, and substance atrophy in the distal finger pads; sicca syndrome; and pulmonary fibrosis. The patient was taking prednisone, 20 mg/d, and oral methotrexate (MTX), 10 mg/wk, a regimen he had followed for the past 5 years. Because the arthritis appeared to be degenerative and MJ's pulmonary fibrosis was stable, medications were discontinued according to standard protocol (e.g., MTX was stopped and prednisone was tapered).

It is possible that MJ had an active alveolitis or inflammatory nonerosive arthritis in the earlier stages of his disease and fulfilled, at least partially, the diagnostic criteria for RA or mixed connective tissue disease. He also might have benefited clinically from the previously prescribed therapies. However, an overlap syndrome—when a patient has a diagnosis of more than 1 rheumatologic disease at the same time—is considered rare.

**DISCUSSION**

As this case exemplifies, diagnosis of rheumatic disorders is not always accurate. These conditions can present a confusing picture—especially to physicians who might be practicing in a community setting and lack access to rheumatologists, rheumatology clinics, or other specialized resources. The American College of Rheumatology (ACR) has established criteria for classifying RA.1 Although these criteria were developed to ensure that the diagnosis of RA is made according to standardized guidelines in research participants rather than in clinical patients, clinicians now use these criteria widely to make a diagnosis in individual patients. Keep in mind, however, that these criteria are empiric and are not meant to include or exclude a particular diagnosis in any given patient.1

The consequences of misdiagnosis can be profound for patients. Although high-dose corticosteroid therapy has been shown to be beneficial in the management of RA,2 its use in patients with systemic scleroderma has been shown to be associated with the development of scleroderma renal crisis.3 Thus, we strongly discourage the use of high-dose corticosteroids in patients with early systemic scleroderma. MTX administered weekly in low doses is a mainstay of RA management.4 However, its efficacy for managing arthritis or pulmonary fibrosis related to scleroderma is inconclusive.5

**CONCLUSION**

Diagnosis of rheumatological conditions can be confusing for those who lack extensive experience in rheumatology because there may be similarities in presentation among the various conditions. Familiarity with distinct diagnostic criteria for the diversified conditions is necessary, as this case demonstrates. Failure to recognize a condition can lead to misdiagnosis or a significant delay in diagnosis or initiation of the inappropriate therapy, possibly resulting in complications. Disease-modifying antirheumatic drugs are not indicated unless there is an active disease process with a favorable risk/benefit ratio.
Preventing venous thromboembolism in hospitalized patients

By Kurt Woldgang, Pharm.D.

Reprinted from Drug Update volume 26, issue number 6, 2009

Venous thromboembolism (VTE), a term which encompasses deep vein thrombosis (DVT) and pulmonary embolism (PE), is the most common cause of preventable hospital death in the U.S. It is the 2nd most common complication experienced in the post-operative patient and a contributor to prolonged hospitalization. Pulmonary embolism, a complication of DVT, is often clinically undetected and can cause fatalities. However, even in cases of DVT, which do not lead to fatal PE, patients may suffer significant morbidity and may be predisposed to future thromboembolic events.

Thromboprophylaxis of hospitalized patients is both cost- and clinically effective. As of 2009, the Centers for Medicare and Medicaid Services (CMS) will not pay for occurrences of DVT/PE in patients with total hip arthroplasty and total knee arthroplasty. As a result, prevention of VTE is not only a patient safety concern, but also an economic issue for hospitals.

Two major guidelines have been established to assist healthcare providers in recognizing VTE risks and appropriately selecting prophylaxis. The 1992 Thromboembolic Risk Factors Consensus Group (THRIFT) Guidelines detail patient risk factors for developing VTE and also provide recommendations for prophylaxis based on risk stratification. Additionally, the 2008 American College of Chest Physician (ACCP) Guidelines for Prevention of Venous Thromboembolism provide recommendations for the prevention of VTE. According to the 2008 ACCP guidelines, the incidence of deep vein thrombosis (DVT) in hospitalized patients ranges from <10 to 80% when patients do not receive prophylaxis. As a result, these guidelines provide specific evidence-based recommendations for VTE prophylaxis based on patient risk factors.

Several studies have suggested that inadequate prophylaxis and lack of adherence to established guidelines is a large problem. There are many contributors to inadequate prophylaxis, including lack of knowledge. Historically, a high percentage of physicians fail to recognize VTE risk factors and adequately provide prophylaxis against VTE. Educating prescribers on disease characteristics, risk factors, and appropriate methods of prophylaxis has improved adherence to ACCP guidelines. Studies have shown that using predefined order sets, staff education, or computer reminders increases the amount of pharmacologic and physical prophylaxis ordered.

In January 2008, a hospital protocol, based on the current ACCP and THRIFT guidelines, was devised at Shands Jacksonville by a multidisciplinary team of physicians and pharmacists in order to increase the number of patients receiving appropriate VTE prophylaxis. This form, available in FormFast, was intended for use in both medical and surgical patients. It recommends specific prophylactic regimens based on individual patient risk factors for likelihood of VTE development.

Appropriate prophylaxis is a key step toward reducing thromboembolic events, avoiding associated costs, and improving patient outcomes.

References
Dr. Malcolm Foster is elected as the DCMS President-Elect

Dr. Malcolm Foster has been elected President-Elect of the Duval County Medical Society (DCMS) at its 157th Annual Meeting, Thursday, January 21, 2010.

Dr. Foster has been on the DCMS Board of Directors since 2007 and served as treasurer in 2008 and 2009. His experience and leadership in administrative medicine at the University of Florida has been an asset for his DCMS leadership roles. In his role, Dr. Foster will work with DCMS president, Dr. John W. Kilkenny III of the Department of Surgery, to promote the goals of the medical society.

Dr. Foster has received numerous honors over his career such as Outstanding Clinical Teacher and the Laureate Award from the ACP-ASIM (Florida Chapter).

Please join me in congratulating Dr. Foster for this honor.

MEET YOUR COLLEAGUES

Nauman Chaudary, M.D., Assistant Professor of Medicine, Division of Pulmonary, Critical Care & Sleep Medicine and Medical Director of the Pulmonary Function Laboratory.

Dr. Chaudary earned his medical degree from Army Medical College in Pakistan. He completed his residency in Internal Medicine at Marshall University School of Medicine and his fellowship in Pulmonary and Critical Care Medicine at West Virginia University School of Medicine. Dr. Chaudary’s clinical interests include markers for gut membrane integrity in relation to timing in shock.

Adil Shujaat, M.D., Assistant Professor of Medicine, Division of Pulmonary, Critical Care & Sleep Medicine

Dr. Shujaat earned his medical degree from King Edward Medical College in Pakistan. He completed his residency in Internal Medicine and his fellowship in Pulmonary and Critical Care Medicine at St. Luke’s and Roosevelt Hospitals of Columbia University. Dr. Shujaat is board certified in Internal Medicine, Pulmonary Disease and Critical Care Medicine. His research interests include pleural disorders, pulmonary embolism, pulmonary hypertension in COPD, ventilator induced lung injury, cardio-pulmonary interactions, hemodynamic monitoring, thoracic ultrasonography, and goal-directed echocardiography.

Ming Xiang, Ph.D., Research Assistant Professor, Division of Nephrology & Hypertension

Dr. Xiang earned his doctorate in Plant Biology from Arizona State University. He did his postdoctoral training (2003-2009) in the departments of Medicine and Physiology at the Johns Hopkins University School of Medicine. He was a Research Associate at the Division of Nephrology at the Johns Hopkins University before he was recruited here in January 2010. Dr. Xiang’s research interests include: role of sodium hydrogen antiporters in hypertension, novel transporters and mechanisms in diseases.
What makes for good PR?

How do we get the public to know what we do and why it’s important?

In some industries, the answer is clear cut. For example, those in the entertainment industry want people to watch or buy their products, so they hire PR agents or publicists. The same thing can be said about nearly every area in which there’s competition to sell a product—banking, retail sales, cars, food.

But what about the medical field?

Although we’re not selling a product in the traditional sense, public relations can be used to help boost image. It’s about letting the public know you have the expertise, technology and compassion they won’t find anywhere else. It’s about letting potential patients believe you are who they should trust with their care. And it’s about letting current patients know they made the right choice.

How can this be accomplished in medicine?

By putting a face with the product. Physicians should take advantage of opportunities to get in front of the public—whether through television, print, radio or speaking engagements—so that they become known as the expert on a particular subject (medical condition, treatment, public health issue or research). Through these opportunities, they are able to educate the public, create a positive impression and, potentially, gain new patients.

And the only thing it costs is a little time.

If you have a topic you think might interest the media, contact Dan Leveton, media relations manager for Shands Jacksonville, at daniel.leveton@jax.ufl.edu. Dan came to Shands from WJXT Channel 4 and has more than 25 years of experience in public relations and the news media. He directs all public/media relations for both Shands Jacksonville and the University of Florida College of Medicine – Jacksonville.