

Academic Physician *Quarterly*

A DEPARTMENT OF MEDICINE BULLETIN



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Jacksonville

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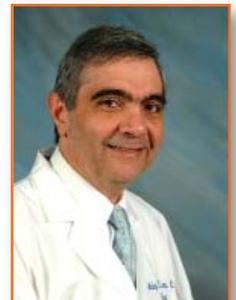
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CHAIRMAN'S MESSAGE

Dear colleagues:

Now that the holiday season is over, we are back on track pursuing excellence in our institutional missions. As we welcome the New Year, we are prepared for the challenges ahead. These challenges, whatever they may be, will be perceived as opportunities to achieve new levels of excellence in our personal and professional life. Health care reform and other new legislations will require resilience and adaptability and, most importantly, our resolve and commitment to delivering the highest quality health care to our patients.



We have been able to tackle past challenges, and we are confident that we will continue to be true to our values and standards. We have been blessed with having excellent faculty and staff who possess the highest degree of professionalism and compassion. Our quest to achieve paperless health care is well underway with the implementation of electronic health records in the hospital and the improvements made in our outpatient scheduling. Access to our consultants is at an all-time high, and the efficiency of our clinic operations is improving. When these changes are fully operational, we will be in a unique position to deliver integrated, multispecialty care through leadership and a unified workforce.

As Charles Darwin stated, "It is not the strongest of the species that survives, nor the most intelligent, but the one most responsive to change." We are confident that we will be able to effectively respond to the upcoming changes in health care legislation and lead the transformation of health care delivery.

Happy New Year,

Arshag D. Mooradian, MD
Professor of Medicine
Chairman, Department of Medicine



Joe Chegade, M.D.
Associate Professor of Medicine

**Division of Endocrinology,
Diabetes and Metabolism**

Department of Medicine

**University of Florida College of
Medicine-Jacksonville**

Thyroid Biopsy

Thyroid nodules are common with an estimated prevalence of 5 percent on the basis of clinical examination alone. The prevalence of clinically unapparent thyroid nodule detected with thyroid ultrasound (US) is more than 20 percent. Of these nodules, however, only 3 to 6 percent are malignant. While thyroid nodules are a common incidental finding, a US should not be performed as a screening test. Most patients with thyroid nodules are asymptomatic, but the absence of symptoms does not rule out malignancy.

All patients with a palpable thyroid nodule or with clinical risk factors like head and neck irradiation should undergo US examination. High-resolution US is the most sensitive test available to detect thyroid lesions, measure their dimensions, identify their structure and evaluate diffuse changes in the thyroid gland.

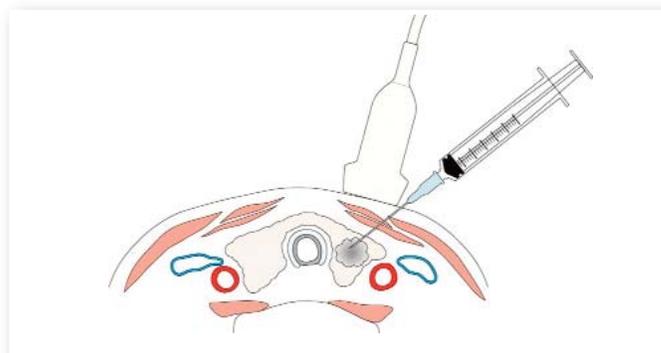
Fine needle aspiration (FNA) biopsy is currently the best triage test for the preoperative evaluation of thyroid nodules. Thyroid FNA biopsy is best performed under US guidance because of the increase in diagnostic accuracy of the procedure. US-guided FNA (UGFNA) biopsy is recommended for nodules smaller than 10 mm if clinical information or US features are suspicious.

The majority of doctors who regularly perform fine needle aspiration biopsies of the thyroid do not use a local anesthetic. Since the needle used for fine needle aspiration biopsy is so fine, anesthesia often results in simply another uncomfortable poke for the patient. We use a topical anesthetic preparation "Emla cream," which takes 10 to 20 minutes to take effect. Usually, two to four aspirations are made from different sites in each nodule using a 25-gauge 1.5" (3.8 cm) needle attached to a 10-mL disposable plastic syringe.

UGFNA biopsy is a sensitive technique also used for identifying malignant lymph nodes, but 5 to 10 percent

of smears are non-diagnostic. In patients with lymph node metastatic lesions or local neck recurrence from differentiated thyroid cancer, we combine the cytologic analysis and measurement of thyroglobulin in the needle washout to increase the diagnostic sensitivity and specificity of FNA biopsy to nearly 100 percent. Washout is performed by rinsing the needle with 1 mL of normal saline solution immediately after smear preparation. The washout technique also allows measurement of parathyroid hormone from UGFNA and permits the diagnosis of parathyroid adenomas with a near-100 percent sensitivity and specificity.

In preparing cytologic samples, we use direct smears



that are essential for immediate on-site interpretation and assessment of sample adequacy, along with cell block technique as an additional resource for possible ancillary investigations. Liquid-based cytology is also used occasionally.

Based on the most recent AACE/AME/ETA guidelines¹, FNA biopsy is recommended for nodule(s):

- Of diameter larger than 1.0 cm that is solid and hypoechoic on US.
- Of any size with US findings suggestive of extracapsular growth or metastatic cervical lymph nodes.
- Of any size with patient history of neck irradiation in childhood or adolescence; papillary thyroid carcinoma (PTC), medullary thyroid carcinoma (MTC), or multiple endocrine neoplasia 2 (MEN 2) in first-degree relatives; previous thyroid surgery for cancer; increased calcitonin levels in the absence of interfering factors.
- Of diameter smaller than 10 mm along with US findings associated with malignancy. The coexistence of two or more suspicious US criteria greatly increases the risk of thyroid cancer.

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“Incidentalomas” detected by positron emission tomography with 18F-fluorodeoxy-glucose should undergo US evaluation plus UGFNA biopsy because of the high risk of malignancy.

We work closely with our nuclear medicine department and endocrine surgery teams that have extensive experience in the care of thyroid and parathyroid disorders. Patients are increasingly referred for complex conditions such as reoperative problems, advanced thyroid cancers requiring radical neck

dissection and hereditary endocrine syndromes. Complex cases are presented during our monthly multidisciplinary thyroid cancer tumor board meeting.

For evaluation of thyroid nodules, thyroid cancer and parathyroid disorder, please contact our referral line at 904-383-1004.

REFERENCES

1. AACE/AME/ETA Thyroid Nodule Guidelines, *Endocr Pract.* 2010;16(Suppl 1)
2. Revised ATA Thyroid Cancer Guidelines. *THYROID* Volume 19, Number 11, 2009

GME CORNER



Jeffrey House, DO

**Associate Professor of Medicine,
Division of General Internal
Medicine**

**Program Director,
Internal Medicine Residency**

Welcome Our New GME Leaders

The Internal Medicine Residency has been fortunate to have many quality leaders over the years. However, the one constant in academic medicine is change, and this year is no different. I would like to introduce some of the bright new leaders who will be joining us in the near future.

First, I am pleased to announce that Dr. Nilmarie Guzman was appointed in December as the new Associate Program Director for the Internal Medicine Residency Program. Nilmarie joined the faculty in 2006 and has been a core faculty member since her appointment. She has been a dedicated member of our teaching faculty from the beginning. As a core faculty member, she instantly became an integral part of our academic mission and was an important part of both our last RRC site visit as well as our recent internal review. Also, she has been a loyal representative at our annual Evaluation of Educational Effectiveness meeting. As Assistant Fellowship Director, she is conversant with the requirements of the ACGME, especially when it pertains to the Next Accreditation System. She has always been recognized as an outstanding teacher and received an exemplary teaching award in 2011. She has tirelessly given the monthly infectious disease core conference for the last several years. All of these highlights make her a natural fit to take on the role as Associate Program Director.

The real “front line” leadership and teaching comes from our administrative Chief Medical Residents. This year’s chiefs, Drs. Ryan Wilson and Emily Christman, have done nothing short of a spectacular job and the house staff have really benefited from their dedication to the program. They will be followed by Drs. Ronald Brown and Mathew Clark, who have been actually awaiting their turn at the helm. Ron is a graduate of Xavier University and attained his medical degree from the University of Louisville. He is a quiet, determined leader and was honored as an intern of the year. Matt is from the University of West Alabama and later graduated from St. Mathew’s University School of Medicine. He’s been described by some of the faculty as a great team leader as well as reliable and hard working. Both of these future chiefs plan to pursue a fellowship in gastroenterology.

We now have our two Chief Residents for the 2014-2015 academic year to introduce. The first is Dr. Jason Bellardini, who hails from Villanova University and obtained his medical degree from American University of Antigua. He is recognized by his peers and ancillary staff as professional, confident and a “real team player.” These are characteristics that will serve him well as chief. Jason plans to pursue fellowship training in pulmonary critical care. Jean Touchan is a graduate of the University of Aleppo and is one of our brightest residents to date. Owner of perhaps the highest USMLE scores I have ever seen, he’s now a member of our ACP Doctor’s Dilemma Team. His colleagues have recognized not only his medical knowledge assets, but his willingness to teach. Following his year as chief, Jean plans to enter a fellowship in cardiology.

The program looks forward to facing new challenges and expects to build upon its many accomplishments in the coming year. Please join me in welcoming the new and future leaders of the Internal Medicine Program who will help guide us through those years.

Sarada Jaimungal, MBBS, Ghaith Mitri MD

Division of Rheumatology, Department of Medicine, University of Florida COM, Jacksonville

Pagets Disease Leading to Calcium Pyrophosphate Crystal Deposition Disease (CPPD)

INTRODUCTION

Calcium Pyrophosphate crystal deposition disease (CPPD) occurs when pyrophosphate dehydrate crystals are deposited in articular and periarticular tissues. Chondrocalcinosis in Paget's disease has been described in varying frequency¹. This case serves to exemplify the coexistence of chondrocalcinosis and Paget's Disease.

CASE HISTORY

J.S. is a 69-year-old female who had bilateral knee pain for the past five years. The pain was dull without morning stiffness or swelling. Her symptoms were attributed initially to osteoarthritis then to rheumatoid arthritis. She had a history of asymptomatic Paget's disease of the bone for which she was not being treated. Physical examination revealed tenderness, swelling and crepitations in both knees. Serum alkaline phosphatase levels were elevated at 132 U/L (normal 35 to 104 U/L) as was bone specific alkaline phosphatase which was 23.7 U/L (normal 0 to 21.3 U/L). Chondrocalcinosis was seen in the pelvic, knee and hand X-rays (Figure 1). The sacroiliac joints were normal. This is typical of calcium pyrophosphate crystal deposition disease (CPPD). Ultrasound examination showed granular material in the left mid-foot that revealed positively birefringent, rhomboid and needle-shaped crystals under the microscope. This is in keeping with CPPD. It was thought that Paget's disease of the bone played an etiological role in CPPD development in this patient. Thus, treatment was aimed against both CPPD and Paget's disease even though the latter was asymptomatic. With this regimen, J.S. had resolution of her joint pain.

DISCUSSION

Chondrocalcinosis is a pathological and radiological term used to describe the deposition of these crystals within the cartilage. Pseudogout describes the severe

acute attack that resembles a gout exacerbation². CPPD is an idiopathic process but metabolic diseases like hyperparathyroidism, hemochromatosis, hypomagnesemia and hypophosphatemia have been etiologically linked to it. It has also been reported that 3.4 percent of patients with CPPD have Paget's disease. It is unclear whether this association is due to chance or a true role for Paget's disease in the manifestation of CPPD exists. With respect to J.S, the authors speculated that the patient's Paget's disease played an etiological role in the development of

her CPPD. It is for this reason that a bisphosphonate was started to treat the Paget's disease even though it did not cause symptoms³. The fact that J.S. remains pain free after starting a bisphosphonate provides evidence that Paget's disease and CPPD may be etiologically related. J.S. responded well to the treatment of CPPD, leading the authors to conclude that patient with Paget's disease and CPPD



Figure 1: X-ray of the right hand. Arrow points to chondrocalcinosis of the triangular fibrocartilage. This X-ray finding is typical of calcium pyrophosphate crystal deposition disease (CPPD).

may benefit from treatment of Paget's disease, including asymptomatic Paget's disease. Analysis of this case can lead one to hypothesize that Paget's disease played an etiological role in the development of CPPD in this patient. Also, this case exemplified that treatment of Paget's disease, even if asymptomatic, can lead to symptom control of the associated CPPD in some patients.

REFERENCES

1. Hamilton EBD. Diseases associated with CPPD deposition. *Arthritis and Rheumatism*. 1976; 19: 353-357.
2. Benecardino JT, Hassankhani A. Calcium pyrophosphate dehydrate crystal deposition disease. *Semin Musculoskelet Radiol*. 2003; 7: 175-185.
3. Whyte MP. Paget's disease of Bone. *New England Journal of Medicine*. 2006; 335: 593-600.

By Kristin Eginger, PharmD
PGY-1 Pharmacy Resident

Strategies for Reducing HIV Medication Errors

Reprinted with some editing from Drug Update, Volume 29, Number 2, April - June 2012.

Medication errors related to highly active antiretroviral therapy (HAART) regimens occur in an average of 30-40 percent of hospitalized HIV-infected patients. Errors can lead to an increased risk of morbidity and mortality as well as development of drug resistance. Examples of medication errors include improper HAART regimens that deviate from current HIV guidelines, inappropriate dosing, missing agents and drug interactions. The omission of opportunistic infection (OI) primary prophylaxis is another error, which may be life threatening.

To achieve long-term virologic suppression and preservation of their immune system, patients must maintain a high level of adherence to their HAART regimens. It is generally accepted that an adherence level of more than 95 percent is required to prevent viral replication in the presence of suboptimal drug concentrations leading to the development of drug resistance. This in turn limits future treatment options. Although many factors influence adherence on an outpatient basis, medication errors should not contribute to poor adherence or suboptimal HAART regimens during hospital admission.

A recent investigation that examined the impact of a pharmacist's targeted review of patients receiving HAART or OI primary prophylaxis medication at Shands Jacksonville determined that 54.7 percent of patients evaluated within 72 hours of admission had at least one medication error. The most common error was omitted dose, a dose of an agent not given during admission as a result of an incorrect or incomplete regimen. Ninety percent of correctable errors were amended by pharmacist intervention.

Although a dedicated HIV pharmacist is one method to reduce the number and duration of errors in hospitalized HIV-infected patients, a team-based approach is essential to reduce HAART errors. Here are some strategies for each member of the health care team to improve care of our HIV-infected patients.

Nurses

Ensure accurate input of medication histories into Epic. Using default doses and frequencies when the patient

does not know these details leads to prescribers restarting medications as they were recorded. Verify any changes to medications during reconciliation since last admission.

Prescribers

Be aware of common medication mistakes:

Regimens should contain three or more antiviral agents (not including ritonavir). Fewer suggest a missing medication.

Ritonavir (Norvir®) is not used alone for its protease inhibitor (PI) activity, but it is used to boost the concentration of other PIs.

Atazanavir (Reyataz®) should NOT be ordered with a proton pump inhibitor (PPI). Use an H2 antagonist (e.g., ranitidine) nightly instead if GI prophylaxis is needed. Atazanavir and H2 antagonist need to be separated at least 10 hours apart.



Check renal dose adjustments for agents, especially when creatinine clearance is less than 50 mL/min. Tenofovir (Viread®) and emtricitabine/tenofovir (Truvada®) are common antiretrovirals that require renal dose adjustment.

Sulfamethoxazole/trimethoprim DS (Septra® DS, Bactim® DS) one tablet daily should be ordered for all patients with a CD4 count <200, CD4 percent <14 percent, or oropharyngeal candidiasis for *Pneumocystis jirovecii* pneumonia (PCP) primary prophylaxis. Patients with "sulfa" allergies can take dapsone or atovaquone (Mepron®) as alternative regimens.

Azithromycin (Zithromax®) 1,200 mg weekly should be ordered for patients with a CD4 count <50 for primary

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prophylaxis against disseminated. Mycobacterium avium complex (MAC) disease.

Consult your pharmacist for alternative agents in the case of patient allergy or intolerance.

Document in the progress note where the patient goes for HIV care. HIV clinics in the area include: UF CARES Rainbow Center: 904-244- 2120; Boulevard Clinic (Duval County Health Department): 904-253-1040; Riverside “Magic Johnson” Healthcare Center (AIDS Healthcare Foundation): 904-381-9651. This will allow for quicker contact with the clinic to verify a regimen.

Pharmacists

Assist nurses and prescribers in verifying medication regimens with clinic or pharmacies when a patient cannot recall home medications. Verify appropriateness

of regimen before verifying orders in Epic. This includes dose, frequency, scheduling and drug-drug interactions. The most common drug-drug interaction is atazanavir and a PPI. Always assess if the patient is taking a PPI if atazanavir is ordered.

In summary, there are many resources available to assist in prescribing and verifying appropriateness of HAART regimens. If in doubt about a patient’s regimen, consult HIV guidelines, pocket references (faetc.org), the patient’s outpatient HIV clinic, or your pharmacist to make sure your patient is getting the appropriate therapy.

NEWS & NOTES

Women & Heart Disease: Closing the Gender Gap

Heart disease is the leading cause of death in the United States. When examined by gender and race, cardiovascular outcomes, however, differ significantly with women and racial/ethnic minorities being disproportionately affected by adverse outcomes. This conference will address issues recognizing gender differences in cardiovascular disease manifestation, prevalence and outcomes.

When: January 26, 2013

Where: Hyatt Regency Jacksonville Riverfront

For more information please contact Kai Woods at 904-244-3158 or kai.woods@jax.ufl.edu.

Musculoskeletal Ultrasound & Interventional Cadaver Workshop

A three-day course that features intensive hands-on scanning and cadaveric injection workshops for rheumatology educators and fellows interested in expanding their basic musculoskeletal ultrasound skills.

When: February 1-3, 2013

Where: Wyndham Jacksonville Riverwalk and UF Center for Simulation Education & Safety Research at Shands Jacksonville Medical Center

For more information please contact Barbara Jones at 904-244-4372 or barbara.jones@jax.ufl.edu.

ANOTHER 100 percent achievement in board-pass rate

The entire 2012 graduating class of residents has passed the Internal Medicine Board exams! This 100-percent pass rate is a testament to their hard work as well as the teaching and direction the faculty have given them.

Congratulations to the residents on this wonderful achievement.

Fellowship Match

All of our fellowship programs filled their positions, resulting in yet another successful recruitment season. A special thanks to all of the program administrators and fellows who have represented their program well to the applicants.

We would like to also recognize our residents for their successes in the Fellowship Match. Most of our residents have matched in fellowships of their choice, although we anxiously await results of the few residents who did not match. Some of our residents will stay here for fellowship, but this year many will be training at other academic institutions.

Please join us in congratulating all of the successes of the fellowship directors, program administrators, fellows, and house staff.

Our Health Care Heroes

Twelve of the 30 professionals named Health Care Heroes for 2012 by the Jacksonville Business Journal are employees of the University of Florida College of Medicine–Jacksonville.

The eleven UF physicians and a nurse were honored at an annual celebration of excellence in health care, including one doctor who received the Lifetime Achievement award for a career of exceptional service.

LIFETIME ACHIEVEMENT

Thomas Chiu, MD, MBA, UF professor and medical director of external affairs for pediatrics. Chiu stepped down this year after 20 years of service as chair of pediatrics. Before becoming chair, Chiu established a citywide neonatology program that helped lower Jacksonville’s infant mortality rate in line with the national average (it had been three times the normal rate). Chiu helped the UF pediatric practice grow through numerous community partnerships and, on the weekends, he makes rounds to stay involved in clinical work.

CARDIOLOGY

Dominick Angiolillo, MD, UF associate professor of medicine. Angiolillo is an internationally recognized interventional cardiologist and his groundbreaking research was published in the Journal of the American Medical Association three times in the past year. He brings scientific ingenuity and expertise into his clinical work, tailoring medications and therapies to a patient’s physical and genetic makeup.

MENTAL HEALTH

Ann Usitalo, PhD, UF assistant professor of pediatrics. Usitalo is a licensed psychologist with the UF Center for HIV/AIDS Research, Education and Support (UF CARES), specializing in counseling children and adults coping with the disease, either personally or with an infected family member. She empowers them to take control of their lives and overcome the denial and fear so commonly experienced when faced with this life-changing diagnosis.

NURSING

Melissa Scites, RN, executive director of UF CARES. Scites began her nursing career at the height of the HIV/AIDS epidemic, when a diagnosis gave little hope for positive treatment outcomes. At that time, the transmission rate from HIV-positive mothers to their children was 25 percent. Scites worked on a national research study that dramatically changed HIV care,

cutting the rate to less than 2 percent. Scites now runs UF CARES and attracts significant state and federal dollars for research and outreach.

PEDIATRICS

Nizar Maraqa, MD, UF assistant professor of pediatrics. Maraqa is director of the Children’s Medical Services Medical Foster Care Program in Jacksonville, responsible for caring for children with significant health issues who have also been removed from their biological parents’ home because of abuse or neglect. Maraqa leads a team of nurses and social workers to find safe, loving homes for children. Under his leadership, the program increased placements for children with serious medical challenges.

Mark Hudak, MD, UF professor and chair of pediatrics. Hudak was named chair of pediatrics in April and recently published a study about the increased use of painkillers among pregnant women and what physicians should look for in newborns withdrawing from drugs. He’s also site principal investigator in Baker County for the National Children’s Study, which follows 100,000 children nationwide from birth to age 21, looking at environmental influences on health and development.

PHYSICIAN

Madeline Joseph, MD, UF professor of pediatric emergency medicine. Joseph is leading a national workgroup of the Centers for Disease Control and Prevention to develop guidelines to treat and recognize mild traumatic brain injury in youth, in addition to her work on concussion research locally. Joseph also led a national committee that used a federal grant to develop a video game designed to teach youth what to do during a natural disaster.

Kenyatta Lee, MD, UF assistant professor of community health and family medicine. Lee is a leader in implementing the Patient-Centered Medical Home model focusing on data-driven care and having staff automatically alerted when a patient misses a procedure or test results come back irregular. Lee is also leading a multidisciplinary team and developing educational curriculum at one of five U.S. clinical sites for the American Diabetes Association to test a new system to monitor diabetes patients and track progress using data, including weight, cholesterol levels and blood pressure.

RESEARCH

Michael Haas, PhD, UF associate research professor of medicine. Haas has [focused his research on examining](#)

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UF&Shands Jacksonville continued from Page 7

how to increase the levels of “good” cholesterol and promote the remarkable role it has in overall health and well-being. He was published in two prestigious journals this year, one for research on how niacin can trigger creation of good cholesterol. The other study pinpointed the chemical in cigarette smoke that blocks good cholesterol production.

Mobeen Rathore, MBBS (MD), UF professor of pediatrics. Rathore’s career in research spans 25 years, the last 22 in Jacksonville. He specializes in HIV/AIDS, vaccines and the epidemiology of infections. Last year, the *New England Journal of Medicine* published a study Rathore co-authored that redefined the care of newborns infected with herpes. Through his research, Rathore held leadership roles with the National Institutes of Health and the Centers for Disease Control and Prevention.

SURGERY

Robert Levy, MD, PhD, UF professor and chair of neurosurgery. Levy joined UF last year as chair of

neurosurgery and co-director of the Shands Jacksonville Neuroscience Institute. Levy is a leader in his specialty, known as neuromodulation—using electrical or chemical devices to treat neurologic disorders including chronic pain, Parkinson’s disease, headaches and epilepsy. He has started building a Center for Neurorestorative Surgery, which allows Levy and his colleagues to treat patients with state-of-the-art equipment and technology in neuromodulation.

Andrew Kerwin, MD, UF associate professor of surgery. Kerwin is chief of acute care surgery and medical director for the trauma program at Shands Jacksonville. The trauma center is one of the busiest in the country and treats about 4,000 patients a year with devastating, life-threatening injuries. Kerwin stays on top of the latest advances in technology with his prolific research career and by teaching the next generation of trauma surgeons.