A Message from the President

Twyla B Bartel, DO, MBA, FACNM

This will be my final message in the role of CIC President. While the past two years have gone by quickly, your CIC has accomplished much during this time. It would have not at all or continue to be possible without the extraordinary leadership that is in place. This includes both national and international board members, officers, interns, mentors, and you as members! In summary, here are the new items that have been accomplished over the last 12 months of which most were decided upon at strategic planning sessions (and this does not include all other activities that are being planned still or ongoing):

- Established and currently have 2 new international board member positions filled
- Began including the CIC Walter Wolf Award recipient as a one-year term honorary board member
- Established the new CIC Barry Siegel Lectureship and Award
- Began CME/SAM/VOICE credit writeups in the CIC newsletters
- Strengthened the mentoring process of the CIC Internship with oversight by dedicated mentors
- Initiated and developed with SNMMI Outreach a new webinar series on PET/CT cardiovascular inflammation/infection (and in collaboration with the PET COE and cardiovascular and pediatric councils)
- Selected a CIC member to represent us on the SNMMI Scientific Program Committee
- Initiated extensive collaboration with other SNMMI centers of excellence and councils for meeting sessions

The above speaks for itself on how busy the CIC has been. I can only say thank you to everyone for allowing me this great opportunity to advance our beloved profession, and especially as related to correlative imaging!

Have a great summer, and please try and stay healthy!

Twyla Bartel, DO, MBA, FACNM; CIC President
This is a brief overview of incidental lung nodules as related to CT and FDG-PET/CT with these objectives:

- Review anatomic imaging lung nodule guidelines
- Understand a few ways FDG-PET/CT may be utilized for lung nodule evaluation
- Recognize some common causes for false positive findings on FDG-PET/CT regarding lung nodules

Pulmonary nodules are an increasingly common clinical dilemma given the widespread utilization of cross-sectional imaging. Nodules may be found on either low dose chest CT lung cancer screening examinations or incidentally in up to 31% of other cross sectional exams. Imaging and clinical societies have developed management guidelines based on patient risk factors, number, density, and FDG-avidity of pulmonary nodules.

Many radiologists follow the 2017 Fleischner Society Guidelines for incidental solid pulmonary nodules. In patients without elevated risk for lung cancer, nodules <6mm do not warrant follow up, nodules 6-8 mm warrant follow up at 6-12 months and optional follow up at 18-24 months, and nodules >8mm warrant either CT follow up in 3 months, FDG PET/CT, or biopsy. In patients with elevated risk of lung cancer, the guidelines recommend slightly more intense follow up. In patients with multiple nodules, management is based on the most suspicious nodule. The society similarly has recommendations for CT follow up of ground glass or part-solid nodules with time interval for CT based on size and solid component.

FDG PET/CT evaluation of pulmonary nodules is useful as it combines morphologic and anatomic findings of CT with the metabolic provided by PET. Common causes for false positive exams include infection, inflammation, and granulomatous disease. Common causes for false negative exams include adenocarcinoma in situ lesions, carcinoids, and nodules less than 1cm in size. A recent meta-analysis of 12 studies evaluating over 1300 pulmonary nodules showed good overall diagnostic performance of PET/CT with a pooled sensitivity of 82% and specificity of 81% for lung cancer. Some studies suggest the performance of PET/CT may be even better if combined with a clinical estimate of pre-test probability of malignancy.

References:
Meet One of CIC’s Technologist Members

I was first introduced to nuclear medicine when I began working as a medical assistant for a large cardiology practice. I was intrigued and made the decision to work toward becoming a CNMT. I received my BA in Nuclear Medicine Technology from the University of Arkansas for Medical Sciences in 2005, and after graduating, I returned to the cardiology practice where I worked for a year. I am so grateful to have had such encouragement from my employer…they helped me create a new path for myself.

I have been working for BRF/ Center for Molecular Imaging and Therapy in Shreveport, Louisiana, as a PET/CT technologist since 2006. I absolutely love the work that I do! One of the things that I love about PET/CT is that I have been able to form bonds with so many of my patients. I get to know them over the course of their treatment, and I have celebrated and cried with them. Another thing that I love is being able to offer patients new imaging and therapies as they become available. I think it is so important for imaging professionals to form an alliance in order to provide patients with the best care possible. We have to work together to help physicians treat their patients…our patients. Communication between various imaging modalities is crucial. We often times have to coordinate with other imaging departments such as CT and MRI in order to take care of patients. It is a joint effort and imaging professionals play a huge role!

I believe that having amazing mentors can make a huge impact on not only how we perceive ourselves, but how we present ourselves to others. At the encouragement of a great mentor, I began to become more involved in my profession. Since then, I have been the Chair for a technologist symposium and the TS-Chair for my chapter’s annual meeting in 2018. I also serve as the TS-Secretary for the Southwestern Chapter and have been working on the program committee at the national level for the last four years. I appreciate that when I need advice or just a pep talk, I can call on the members of our profession. We are truly a team. Molecular imaging is helping to take our field into the future, and I am looking forward to seeing all that is to come!
Upcoming Virtual CIC Sessions/Webinars

1) CE Session (CE03): July 12, 2020, 12:30 PM ET - Lymphoscintigraphy: Review of Basics, Use with SPECT/CT, and Viewpoint of a Surgeon

2) CME/SAM/VOICE Webinar: August 20, 2020, 12:00 PM ET – Multimodality Imaging of Cardiac Sarcoidosis and Amyloidosis

3) CME/SAM/VOICE Webinar: September, 15, 2020, 12:00 PM ET: Barry Siegel Award & Lecture and Total Body PET/CT

4) CME/SAM/VOICE Webinar: October 15, 2020, 12:00 PM ET – FDG-PET/CT for Cardiac Device Infection Imaging

5) CME/SAM/VOICE Webinar: October 29, 2020, 12:00 PM ET – Myocarditis/Pericarditis/Endocarditis Correlative Imaging

6) CME/SAM/VOICE Webinar: February 10, 2021, 12 PM ET - Staging Breast Cancer with Nuclear and Molecular Imaging

CIC-SNMMI “ONES TO WATCH” RECIPIENT

A huge congratulations to Dr. Jeremie Calais who was nominated to represent the CIC and selected by SNMMI for this! Each year, the SNMMI selects 30 early career professionals as “Ones to Watch.” This was launched in 2018 in order to recognize those with the potential to shape the future of precision medicine across all spectrums of the field. Dr. Calais is also currently an honorary CIC board member and won last year’s CIC Walter Wolf Young Investigator’s Award.
**Interesting Ga-68 DOTATATE Case**

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A male with a history of pancreatic cancer undergoes an FDG-PET/CT (left) and 68Ga-DOTATATE PET/CT (right) within a week. Only the 68Ga-DOTATATE study shows extensive abnormal uptake in the upper abdomen, most notable in the liver depicting somatostatin-receptor positive tumor (predominately overexpression of SSTR2).

![PET/CT images showing Ga-68 DOTATATE uptake](image)

This case demonstrates a “Flip-Flop Phenomenon” where well-differentiated tumor may show high DOTATATE uptake and low FDG uptake. As shown in this case, the patient is a good candidate for 177Lu-DOTA-octreotate therapy.

The opposite is also called a “Flip-Flop Phenomenon” (NOT shown here) where one can have high FDG uptake and low DOTATATE uptake in poorly- or de-differentiated tumor (where NETs lose their ability to concentrate somatostatin analogues, but have higher glucose metabolism) and generally indicates poorer prognosis.

References: