

Mallinckrodt Fellowship Awarded to Breast Imaging Physician



Fidelma Louise
Flanagan, MD

Acknowledging the increasing prevalence and growing concern about breast cancer, the Society of Nuclear Medicine awarded the 1995 Mallinckrodt Fellowship to Fidelma Louise Flanagan, MD, a breast imaging fellow at the Mallinckrodt Institute of Radiology, Washington University School of Medicine in St. Louis. Flanagan received a \$30,000 grant this June to conduct research using PET scans to monitor tamoxifen therapy in breast cancer patients with metastases.

Although she came to the United States only a year ago from Ireland, Flanagan has impressed her colleagues at Mallinckrodt Institute of Radiology with her exceptional medical knowledge and clinical skills in interpreting breast imaging studies, according to Farrokh Dehdashti, MD, an assistant professor of radiology at Washington University who will serve as Flanagan's mentor over the next year. Flanagan has a particular interest in estrogen receptors and in studying the modus operandi of tamoxifen, the antiestrogen drug used in the treatment of breast cancer. Her vision is to use PET to study the minute biochemical changes which may precede, or be more specific than, the structural changes associated with breast metastases.

Flanagan says she will evaluate serial PET scans using the specific tumor radiotracers 16α -[^{18}F]fluoro- 17β -estradiol (FES) and [^{18}F]-2-fluoro-2 deoxyglucose (FDG) in women with advanced estrogen receptor breast metastases both before and after initiation of tamoxifen therapy. She expects to combine the functional data provided by PET with the prognostic assessment from the clinical examination and pathology report with the hope of yielding new information about tumor aggressiveness and hormonal sensitivity. The ultimate goal: Hormone therapy for advanced breast cancer will be individualized for each patient based on this series of factors. Approximately 20% of patients with breast metastases to distant organs who are treated with tamoxifen will initially experience a worsening of their symptoms, which may include bone pain, fever or a general malaise. This phenomenon, known as metabolic flare response, is temporary and does not interfere with tamoxifen or affect whether patients will go into remission. Unfortunately, oncologists often have difficulty distinguishing the flare response from disease progression; thus, tamoxifen may be prematurely discontinued in some patients. To address this problem, Flanagan plans to see whether using FES to gauge estrogen levels and FDG to measure glucose metabolism will enable PET to determine if symptoms are caused by disease progression or metabolic flare.

In addition to her daily participation in the evaluation of PET scans, Flanagan will receive formal training on a weekly basis in the form of department-sponsored lectures which will center around the operation, implementation and interpretation of PET as it applies to clinical oncology. "Given that the use of

PET will increase exponentially in forthcoming years with the availability of further radiolabeled compounds," wrote Flanagan on her fellowship application, the Mallinckrodt grant will provide her with the clinical and practical knowledge necessary to assess the relative value of PET as compared to static imaging modalities. Moreover, Flanagan hopes to use this year to conceive of new ways to combine the various imaging techniques involved in diagnosing breast cancer to evaluate tumor biology and the biochemistry of malignant diseases more effectively.

Flanagan is no stranger to clinical work in breast cancer, having worked on a pilot screening program in Ireland prior to her arrival in America. Flanagan had spent 18 months as a clinical lecturer in diagnostic imaging at the Institute of Radiological Sciences at Mater Hospital, University College, which is where she developed an acute interest in the potential value of functional imaging in the assessment and treatment of breast tumors. To date, much of her research has been focused on MRI and its potential role as a prognostic indicator of tumor aggressiveness. She has presented papers on MRI and mammography at several national and international conferences which have brought her high commendation from her peers.

The Mallinckrodt fellowship will allow Flanagan to expand her breast cancer research into the field of nuclear medicine. It places her "in the unique position to amalgamate her knowledge of breast disease and pathophysiology with a wide range of breast imaging modalities into a focused and successful research project," said Barbara S. Monsees, associate professor of radiology at Washington University.

Brendan M. Peter

CONGRATULATIONS TO ALL THE AWARD WINNERS WHO WERE RECOGNIZED AT THE 42ND ANNUAL MEETING IN MINNEAPOLIS:

- ★ **Georg Charles de Hevesy Nuclear Medicine Pioneer Award**—President Joseph F. Ross, MD and the founding members of the American Board of Nuclear Medicine.
- ★ **The Paul Aebersold Award**—John Katzenellenbogen, PhD, University of Illinois.
- ★ **The Mallinckrodt Fellowship Award**—Fidelma Louise Flanagan, MD, Mallinckrodt Institute of Radiology.
- ★ **DuPont Pharma Fellowship for Research in Cardiovascular Nuclear Medicine**—William H. Devlin, MD, University of Michigan and VA Medical Centers.
- ★ **Distinguished Service Award**—Katherine A. Lathrop, University of Chicago.
- ★ **Medi-Physics Therapy Award**—Ben Adarkwa Dwamena, MD, University of Michigan.
- ★ **12th Annual SNM Lectureship**—R. Edward Coleman, MD, Duke University Medical Center.
- ★ **Radiology Centennial Hartman Award Lecture**—Frederick J. Bonte, MD, University of Texas Southwest Medical Center.