

DEMENTIA IMAGING DINNER LECTURE

On Wednesday June 15, Main Street Radiology will present “Multimodality Imaging of Dementia” at Burton & Doyle Restaurant.

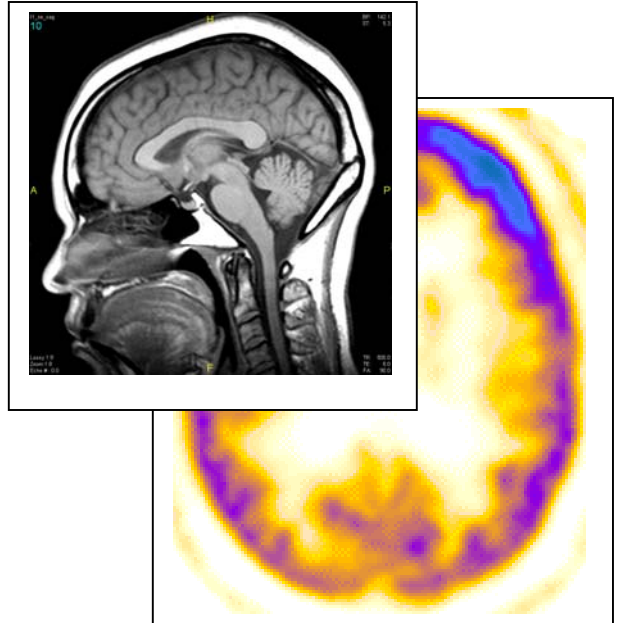
Jeffrey Lee, M.D., a neuroradiologist at MSR will discuss the role of MRI and CT in the management of dementia patients. Jac Scheiner, M.D., a nuclear medicine radiologist at MSR will discuss PET imaging of Alzheimer disease.

1 hour of category I CME credit will be awarded to participants.

Burton & Doyle is located on 661 Northern Blvd. in Great Neck. Appetizers and Sign-in will be at 6:30 pm with Dinner and Lecture starting at 7:00 p.m.

Please call Katerina or Jane at 718-428-1500 to RSVP by June 8.

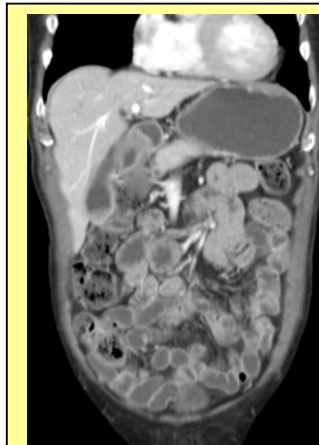
The lecture is sponsored in part by *Pfizer*.



SMALL BOWEL CT

Main Street Radiology has begun performing dedicated CT examination of the small bowel. We are able to better evaluate small bowel pathology, eliminating the need for a small bowel series in most cases.

A specialized oral contrast agent (*VoLumen*) is given prior to the CT examination. Intravenous contrast is administered to highlight bowel wall abnormalities. The oral contrast is low in density, similar to water, so that contrast-enhanced bowel wall may be delineated from the lumen. Unlike water, there is slow absorption of the oral contrast, which allows adequate distension of the small bowel. The exam is performed on a 16-detector spiral CT, with images reconstructed in the axial and coronal planes.



Coronal (top) and axial (bottom) small bowel CT images

NEW FLUSHING OFFICE EQUIPMENT FINALIZED

Construction for the new downtown Flushing office at 136-25 37th Avenue is on schedule, with the opening planned for July 2005. We have selected the most sophisticated equipment matched by only the largest academic medical centers, bringing the highest level of imaging technology to Flushing.

Philips Medical Systems

- 1.5T *Achieva Pulsar* MRI
- *Brilliance* 16-detector CT
- *Forte Jetstream* Dual-detector Nuclear Medicine camera
- *IU22* Ultrasound

General Electric

- *Senographe DS* Digital Mammography
- *Lunar Prodigy Advance* DEXA
- Shimadzu** *YSF 120* Digital Fluoroscopy
- Canon** Digital Radiography

CASE OF THE MONTH

PLANTAR FIBROMATOSIS

History: 37 year old male with painful soft tissue mass of the right foot which has increased in size. The patient was referred to Main Street Radiology for a foot MRI.

Findings: There is a 2.3cm focal area of nodular thickening seen within the plantar aponeurosis and subcutaneous fatty soft tissue, compatible with a plantar fibroma on the saggital T1 weighted image (See figures below).

Discussion: Plantar Fibromatosis is a fibrous and collagenous nodular development in the plantar aponeurosis, usually medially. Single or multiple lesions can be seen.

The most common signs/symptom includes mild plantar pain. The clinical profile can be asymptomatic or pain and discomfort with walking or prolonged standing. The nodule is firm and fixed to the plantar aponeurosis. The lesion is usually seen in ages 65 and older and there is a slight predilection for men. The natural history and prognosis includes possible gradual enlargement and more extensive distribution with an increasing number of nodules.

The relevant anatomy includes the plantar fascia, from the calcaneus to the

metatarsal heads and distally. The central, lateral and medial parts of the cords can be involved. The lateral plantar aponeurosis is plantar to the abductor digiti minimi muscle, while the medial plantar aponeurosis is plantar to the abductor hallucis muscle.

There is a proposed genetic link based on the occurrence of plantar and palmar fibromatosis together in some individuals. The distribution can be solitary, multiple, unilateral or bilateral. Plantar fibromatosis is less common than palmar fibromatosis. The lesions are typically firm, with a thin poorly defined capsule. The microscopic features involve nodular or poorly defined aggregates of fibroblasts and dense collagen. Infiltration of the surrounding structures without malignant transformation can be seen. The staging, grading or classification criteria include the Proliferative phase, which includes fibroblastic activity and cellular proliferation; the Involutional phase, which includes the active phase with nodule formation; and the Residual phase with reduced fibroblastic activity and collagen maturation.

General imaging findings include nodular thickening in the plantar

aponeurosis. MR findings include a hypointense nodule on T1 weighted images, with a central region of low to intermediate signal intensity. This can be seen with low signal intensity effacement of the plantar subcutaneous tissue. The long axis of the nodule is along the long axis of the plantar fascia, and normal thickness of the adjacent plantar fascia. There may be mild hyperintensity in the plantar subcutaneous tissue on T2 weighted imaging. Intermediate signal intensity can be seen in adjacent unaffected plantar fascia. Occasionally there can be infiltration of the upper margins and lesions deep to the plantar aponeurosis. Occassionally the lesion will enhance with contrast, and contrast may help identify multiple lesions. MRI is considered the best imaging tool to identify the location, morphology, and extension relative to the plantar aponeurosis.

Conservative treatment includes orthotics with or without anti-inflammatory agents. Surgery involves excision of the lesion. Complications include local recurrence.

(Case prepared by Anthony Italiano, M.D.)

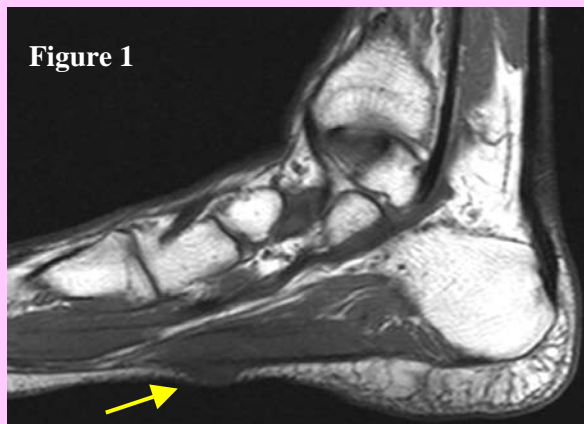


Figure 1

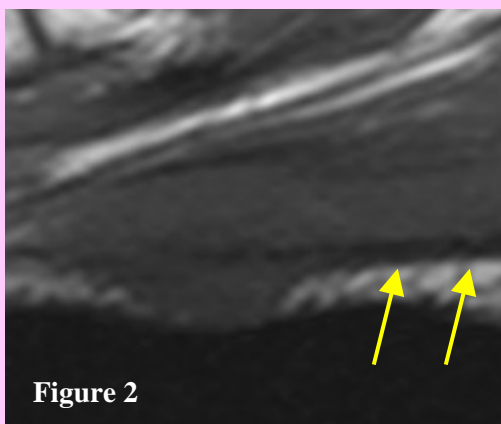


Figure 2

Figure 1: T1-weighted sagittal image of the right foot shows a plantar fibroma (arrow).

Figure 2: Magnified view shows the adjacent plantar aponeurosis (arrows)