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ECR Philippe Houssiau interview

Data must not only converge but be managed easily and efficiently, if sophisticated diagnostics are to result in better patient care. Philippe Houssiau, president of Agfa Healthcare, discusses with DI Business Editor Greg Freiherr the company's strategy for managing this convergence over the short and long term.

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Breast MRI pays its way in preoperative planning

By: Emily Hayes

MR imaging has great value in guiding treatment of breast cancer patients ; is well worth the extra expense when used appropriately, according to radiologists speaking at an ECR session on Sunday.

Accurate assessment of the extent of disease prior to breast surgery is essential if inappropriate procedures and repeat conservation surgeries are to be avoided.

When it comes to the tricky subgroup of invasive lobular carcinoma, research has shown that MRI detects additional disease beyond that discovered by initial imaging assessments. This extra information can sometimes have significant implications for surgical planning.

In light of such research, the U.K.'s Bradford Royal Infirmary began in 2002 requiring breast MR, in addition to mammography and ultrasound, for all patients who had biopsy-proven cancer and who were set to undergo breast conservation surgery.

"With appropriate case selection, this is a good use of MR, which is a scarce and expensive resource," said Dr. Nisha Sharma, a consultant radiologist at Bradford.

A five-year retrospective review of cases shows the new protocol is paying off for patients. In 26 of 62 histologically confirmed cases of invasive lobular carcinoma, MR results changed treatment plans from wide local excision to mastectomy. Based on the MR study, another five patients underwent successful wide local excision for more extensive disease.

Sharma demonstrated cases in which cancer extent was drastically underestimated by mammography and more accurately characterized with MRI.

She also noted that MRI is not perfect. The technique underestimated cancer in two patients. In another case, invasive lobular cancer was palpable but occult on MRI, as it was with other imaging modalities, but proven histologically after the patient elected to undergo mastectomy.

One false positive on MR resulted in a mastectomy rather than breast conservation surgery.

"If you do find additional disease that influences patient management, it is important to perform image-guided biopsy for confirmation," Sharma said.

In another study presented during the same session, researchers at Seoul National University College of Medicine in Korea said the role of MRI for assessing ductal carcinoma in situ is controversial but potentially valuable.

The study, performed between October 2003 and September 2005, involved 72 women, the majority of whom (almost 80%) had dense breasts. Of these cases, 40 were imaged prior to breast conservation surgery and 32 before mastectomies.

Researchers compared high-resolution 1.5T MR findings to full-field digital mammography and histological results. Assessments covered breast density



Brainlab: Minority Report comes to Radiology

Christopher Hamilton of BrainLab demonstrates the company's new touch-based viewing screen.

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tumor grade, presence of comedo necrosis, microinvasion, and tumor size.

MRI picked up 94% of 72 DCIS lesions, whereas mammography found only (86%). Overall accuracy for MRI was 72% versus 43% for mammography. MRI underestimated size in 17% of cases and overestimated size in 11%, whereas mammography underestimated size in 35% of cases and overestimated in 22%.

"MRI can provide more information for preoperative planning, particularly in patients with dense breasts," said Dr. Woo-Kyung Moon, an instructor of radiology who presented results.

In a third study, Italian researchers found diffusion-weighted imaging is better than dynamic contrast-enhanced MRI for measuring breast cancer extension. The study, from the Institute for Cancer Research and Treatment in Torino, Italy, involved 110 patients enrolled between 2006 and 2007.

Dynamic contrast-enhanced MRI resulted in more false positives and false negatives in comparison with diffusion-weighted MRI, according to Dr. Laur. Martincich, who presented results.

Performance in characterizing lesions was much better for DWI than for dynamic contrast-enhanced MRI:

- accuracy: 94% versus 72%
- sensitivity: 94% versus 76%
- specificity: 50% versus 25%

Multicenter studies are needed to further evaluate DWI's utility in characterizing malignant lesions, Martincich said.

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