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## NSF avoidance triggers debate

By Paula Gould

The controversial topic of nephrogenic systemic fibrosis (NSF) drew a large crowd to yesterday morning's special focus session. Delegates queued to quiz speakers about their recommendations for NSF avoidance, ensuring a lively panel discussion.

NSF is a relatively new medical condition, and one that has taken the medical community somewhat by surprise. The systemic disorder, which results in scleroderma-like skin discolouration and hardening, was first observed in patients in

1997. All cases reported to date have involved patients with advanced renal disease.

Radiologists' avid interest in NSF is due to the apparent link with gadolinium-containing contrast media. The vast majority of patients developing NSF had previously undergone imaging with a Gd-based agent on one or more occasions.

The causal link between Gd-based agents and NSF is far from straightforward, though. Two cases have occurred in patients who have never received a Gd-containing contrast agent.

"It seems that gadolinium is a very powerful trigger, but NSF can also occur without the MRI agents," said Prof. Pontus Persson from the Institute of Physiology, Charité Medical University of Berlin.

The key question for radiologists is: How can we prevent the continued occurrence of NSF? The first crucial step is to identify those patients who are at highest risk, that is, those with impaired renal function, said Prof. Sameh Morcos, professor of radiology at the University of Sheffield, UK.

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Prof. Sameh Morcos from Sheffield/UK.



Prof. Pontus Persson from Berlin/DE.

## Cardiac radiology enters vital new phase

By Philip Ward

Cardiac imaging is at a crossroads. That's the view of next year's ECR President – and he's not alone in holding such an opinion.

Advances in CT and MR are expanding the role of these modalities, and highly promising results from coronary CT angiography are boosting the demand for 64-slice multidetector (MDCT) scanners, but uncertainty remains, said Prof. Borut Marincek, Chairman at the Institute of Diagnostic Radiology at Zurich University Hospital.

He listed several key areas of concern in cardiac imaging, including the ongoing definition of applications, the high expectations of users and vendors, competition between professional organisations and societies, the need for quality measures, cardiac experts providing interpretations by means of teleradiology, and collaboration between radiology, cardiology, and others.

The ESR's 2007 survey, based on 138 responses from European radiology departments performing cardiac CT and MR, confirmed that cardiac imaging is mainly carried out by radiologists in university hospitals, Marincek told attendees at Saturday's special focus session, at which he was the moderator.

The survey also found that most radiologists are only offering a day-

time cardiac imaging service, and many of them are afraid of losing work to other specialties. A lack of clinical training and limited experience of cases during their residency are seen as major obstacles facing radiologists who wish to become experts in cardiac imaging. The full results of the survey are due to be published in the next edition of the ESR Newsletter (issue 02/08).

CT can broadly, but not completely, cover a large proportion of cardiac imaging, and is an excellent tool for non-invasive imaging of the coronary arteries and ventricular dimensions and function, according to Dr. Hatem Alkadhi, also of the Institute of Diagnostic Radiology at Zurich University Hospital. In addition, the modality has some potential for assessing valvular function and myocardial viability, but no role in perfusion imaging.

"CT for myocardial perfusion measurements is usually not performed because of radiation dose issues," he told attendees at the session.

For the epicardium and pericardium, the primary imaging modality is MRI, Alkadhi stated. The second-line modality is CT, particularly when a lesion extends beyond the epicardium or pericardium.

MRI, on the other hand, is widely accepted as the gold standard for volume and muscle mass quantification, according to Prof. Matthias

Gutberlet, a professor of cardiovascular imaging at the University of Leipzig, Germany. Tissue characterisation and localisation allows differential diagnosis, he noted. Furthermore, delayed enhancement MR is the established method for viability assessment, but it is not specific.

MR flow measurement allows absolute quantification of flow (shunts, insufficiency), but MRI visualisation of coronary arteries is still challenging and MR perfusion in daily routine lacks robustness, he continued. Both these areas can benefit from the use of higher field strengths and parallel imaging.

Different diagnostic strategies are required for both primary and secondary prevention of cardiovascular morbidity and mortality, noted Prof. Valentin Sinitsyn of the Cardiology Center in Moscow. Whereas calcium scoring and ultrasound are needed for primary screening of cardiovascular diseases, a different approach is necessary for coronary CT angiography, assessment of myocardial function and perfusion, and examinations of flow and valve function. Uncertainty, though, surrounds the precise role of MDCT and MRI in the work-up of cardiac diseases.

MDCT has turned into a useful tool for non-invasive coronary imaging, including acute coronary syndromes and imaging of pulmonary veins, while MRI has emerged as a valuable method for assessment of

myocardial viability and perfusion, he said. The unanswered questions are: Who will perform and interpret cardiac CT and MRI examinations? Will it be those who have the knowledge or those who have access

to the equipment? Sinitsyn believes it will be radiologists, but much will depend on their skill and activity in cardiac CT angiography and MRI, and whether they can cooperate successfully with cardiologists.



Prof. Borut Marincek from Zurich/CH.



Prof. Valentin Sinitsyn from Moscow/RU.

### GE Healthcare Satellite Symposium at ECR 2008

**Facing the Challenges of the Increasing Population of High-risk Patients in CT Practice: Recognising the Problem, Improving Outcomes and Reducing the Risks**

**Sunday 9 March 2008**  
12:30 – 13:45  
Room C, Austria Center

**Speakers**  
Dr Elliot K Fishman, USA  
Dr Fulvio Stacul, Italy  
Dr Mark Downes, UK

**Lunch will be provided**

Delegates who attend this meeting can claim CME points as it is part of the scientific programme of the ECR.

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