

EUSOBI Breast Imaging Update 2006

Digital mammography and MR guidance promise new horizons at ECR's back-to-back meeting



Prof. Thomas Helbich, Vienna/AT

For the third time in a row, the European Society of Breast Imaging (EUSOBI) held its annual scientific meeting called Breast Imaging Update one day prior to the annual ECR congress; the EUSOBI meeting was this year presided over by Prof. Ingrid Schreer from the Mammazentrum Kiel, Germany. The state-of-the-art scientific programme of the meeting, which was traditionally held at the Austria Center Vienna, attracted around 200 participants from all over Europe and overseas.

The major topics of this one-day meeting included the latest developments in digital mammography, which bring about new perspectives in breast imaging. The key benefits of digital mammography are reduced radiation dose as well as the implementation of so-called computer assisted diagnosis systems, which help the radiologist find cancers. Another very challenging perspective of digital mammography is tele-mammography, i.e. the possibility to send mammograms to any workstation all over the globe in order to seek expert advice or second opinions.

Part of the EUSOBI meeting was dedicated to the latest advances in breast intervention, a growing and constantly developing field in this discipline. Percutaneous image-guided biopsy is increasingly used as an alternative to surgical biopsy for the histological assessment of breast lesions. Percutaneous biopsy is faster, less invasive and less expensive than surgical biopsy. Improved biopsy needles allow a better retrieval rate and better diagnosis.

A major change in breast imaging is currently being heralded by MR guidance procedures. "Due to MR guidance, a lot of breast imagers will change their title to 'MR guided breast therapists', as we have the possibility not only to diagnose but also to treat the cancer," says Prof. Thomas Helbich from the Medical University of Vienna (AKH) and EUSOBI Secretary General. "Offering numerous possibilities, including focused ultrasound, laser therapy or cryotherapy, these new procedures will open up the operating theatre for radiologists," he adds.

One of the highlights of this year's EUSOBI meeting included a session focussing on how to avoid lawyers. The speakers at this important session revealed that communication plays a central role in avoiding legal action by the patient. "If you explain to your patients that mammography is not a tool that is 100% perfect, they will be aware that something might go wrong, as is the case with anything else done by human beings. As a radiologist you have to be a team player and communicate with surgeons, oncologists and any other parties involved in order to do the utmost to avoid cancer misses," Helbich says.

At ECR 2006, breast imaging was also among the topics that were high up on the agenda. The highlights discussed included MR imaging of the breast, breast screening, interventional procedures as well as laser mammography, a new radiological technique for the early detection of breast cancer that is currently being clinically evaluated and tested in Europe and the United States. "Through molecular imaging with laser an improved diagnosis of breast tumours has become possible – and without the slightest exposure to radiation," Helbich says. At the Medical University of Vienna first trials with around 800 female patients were carried out – with highly promising results. In the last several years, the technique has undergone considerable refinement, and the use of computed tomographic systems in laser imaging has become possible. A computed tomographic laser light-based scanner for the breast, called computed tomography-laser mammography (CTLM), has been developed. The basic principle underlying CTLM imaging is the fact that any malignant tumour requires neovascularisation to grow beyond 2 mm in size. It does this by elaborating angiogenetic substances, which stimulate the growth of structurally and functionally abnormal blood vessels. This neovascularisation, which results in a greater volume of haemoglobin in a confined area, can be visualised using absorption measurements of laser light. Within the next years this method of early detection of breast cancer could be an accessible alternative to mammography. Researchers are now working hard to develop the ideal contrast agent for this novel imaging method.

For more information on EUSOBI and its upcoming activities, please visit www.eusobi.org.

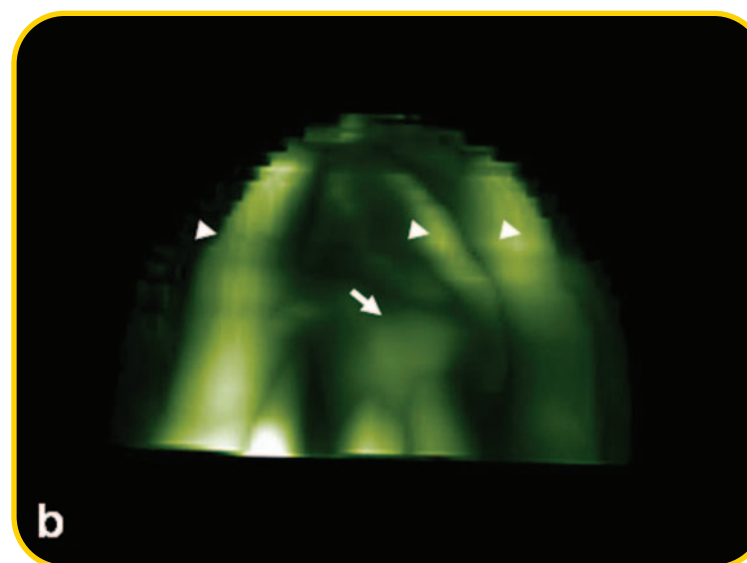
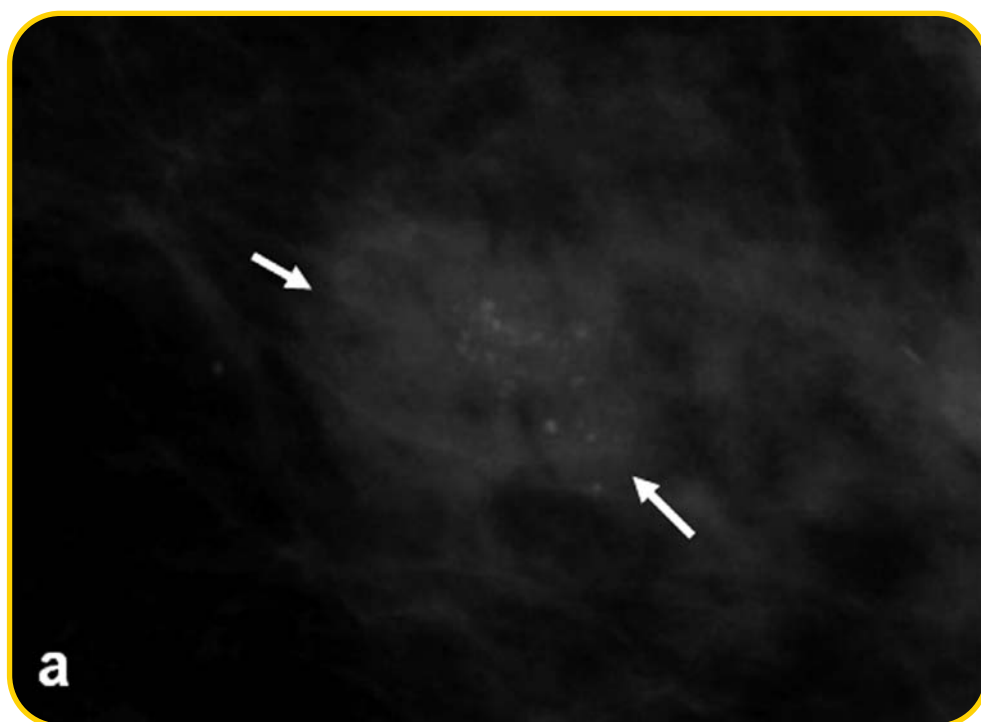


FIGURE 1 (a and b). Images obtained from a 44-year-old female patient. (a) Mammography shows an indistinct mass with pleomorphic microcalcifications, classified as BIRADS IVc. (b) CTLM in 3D MIP reconstruction: At the corresponding localisation, CTLM shows a volume of increased absorption (large arrow) with a round shape. Histologic diagnosis of the lesion revealed invasive ductal carcinoma. Also shown: normal vessels seen from different views (arrowheads).