



Breast imaging in Hungary

An interview with Prof. Gabor Forrai, head of the department of radiology at Duna Medical Center in Budapest, Hungary, head of the breast screening centres in Vac and Eger County Hospitals, and the current President of EUSOBI.

***ESR:** Early detection of breast cancer is the most important issue for reducing mortality, which is one reason for large-scale screening programmes. What kind of programmes are in place in your country and where do you see the advantages and possible disadvantages?*

Gabor Forrai: Hungary was among the first countries to introduce nationwide organised screening, in 2001. The programme operates on an invitation basis and is free for all women. One special advantage is the lower-than-usual starting age (45), and a disadvantage is the quite low upper limit (65). Physical examination (palpation) is included, and is performed by trained radiographers. The goal of the programme is also to raise awareness, as well as to avoid as many invasive lobular carcinomas and non-calcified ductal carcinomas *in situ* as possible. The 15 years of practice have made the screening system robust, but it still needs continuous feedback and fine-tuning: this is a very important task in every country in order to achieve even better treatment selection (surgery, radiation therapy, chemotherapy, hormone therapy, etc.) and results.

***ESR:** The most common method for breast examination is mammography. When detecting a possible malignancy, which steps are taken next? Are other modalities used for confirmation?*

GF: When detecting a possible malignancy, the next step is an ultrasound examination to detect any potential further findings and to assess the option of ultrasound-guided biopsy, which can be performed for any lesion visible on ultrasound. Biopsy with ultrasound guidance is a short procedure which is performed with the patient lying on their back. If the lesion is only visible with mammography (microcalcifications), biopsy will be performed through stereotactic guidance. Because of scanner availability, duration and costs, MRI-guided breast biopsy is only performed for lesions detected with MRI.

***ESR:** Diagnosing disease might be the best-known use of imaging, but how can imaging be employed in other stages of breast disease management?*

GF: In Hungary, an Interdisciplinary Consensus Conference has been held regularly, where a protocol document is created, discussed and published, which includes updates of all diagnostic and therapeutic aspects of breast cancer. Staging and follow-up protocols, and nuclear medicine (e.g. use of PET/CT) are a part of the radiological chapter.

***ESR:** When detecting a malignancy, how is the patient usually informed and by whom?*

GF: As the malignancies are mostly detected and proved in a radiological screening/diagnostic centre, the radiologist informs most patients about the imaging and biopsy result. It is obligatory to issue a written overall diagnostic summary report. The patient is then referred to the breast/oncology team for a therapeutic decision. Of course, the radiologist is a part of this team.

***ESR:** Some imaging technology, such as x-ray and CT, uses ionising radiation. How do the risks associated with radiation exposure compare with the benefits? How can patient safety be ensured when using these modalities?*

GF: CT is rarely performed for local diagnosis of breast cancer, but rather for staging prior to definite therapy or re-staging at follow-up. Mammography comes with radiation exposure, although it uses the lowest dose among all radiological methods and the risks associated with radiation are by far

outweighed by the benefits. Most currently used equipment is digital, which means dose is reduced by approximately 30% compared to the previously used film technique. Patients' safety can furthermore be assured by adequate training of radiographers to avoid repeat mammography examinations due to positioning errors.

ESR: *How much interaction do you usually have with your patients? Could this be improved and, if yes, how?*

GF: Breast imaging is one of the radiological subspecialties with the most pronounced personal interaction with patients, particularly for breast ultrasound and image-guided breast interventions, which even require the presence of a radiologist at all times. Furthermore, the radiologist is usually the first doctor who discusses the findings of diagnostic imaging procedures, as well as histopathology results after biopsy, with patients. Therefore, breast radiologists should be sufficiently empathetic, in order to deal with these psychologically difficult situations, and should have profound knowledge of breast pathology and oncology.

ESR: *How do you think breast imaging will evolve over the next decade and how will this change patient care? How involved are radiologists in these developments and what other physicians are involved in the process?*

GF: Breast imaging and image-guided biopsy are such complex procedures, that in Hungary, we created the most comprehensive licence exam in the EU for radiologists. It is obligatory to pass it to obtain authorisation to perform these procedures alone, without supervision. The exam includes a test, screening image reading, ultrasound exam practice, guided biopsy practice on a phantom (synthetic model) and an oral exam with real, complicated cases. I think that radiologists will always be in a leading position in breast diagnostics and treatment. Image-guided interventional procedures will increasingly be a part of the local treatment of breast cancer – I guess it is not too far away that radiologists may take over a part of the therapy from the surgeons.



Gabor Forrai MD, PhD, completed his studies at Semmelweis Medical University, Budapest, Hungary. He later served as a staff radiologist for ten years at the National Institute of Oncology, Hungary (1987–1996), as assistant professor and head of department at the Haynal Imre Postgraduate Education University, Budapest (1998–2007) and as head of the department of Radiology at the Military Hospital/State Health Center/Teaching hospital University Semmelweis (2007–2014). He is currently head of the department of radiology at Duna Medical Center in Budapest, Hungary and head of the breast screening centres in Vac and Eger County Hospitals.

He also gained experience abroad in Koln, Nurnberg, and Erlangen, Germany (1990), as well as Rehovot, Israel (1998), Nottingham, United Kingdom (1999) and Dusseldorf University, Germany (1993–1994). He also held a post as staff radiologist at the Hopital Tenon, Paris, France (1994–1995).

An experienced lecturer (with 227 presentations in French, English and Hungarian), Prof. Forrai has published a book, 29 book chapters, 24 full articles and 56 scientific congress abstracts. He wrote his PhD thesis on the subjects of breast core biopsy and breast MRI.

Prof. Forrai has been the president and organiser of several national and international courses and congresses, such as the French-Hungarian Radiology Symposia (annually since 2001), Central European PACS School, Central European eHealth Academy, EUSOBI Schools and ESOR events.

He is the current President of EUSOBI (2015–2018), and was Chair of the Breast Subcommittee of the European Congress of Radiology 2014, Secretary General of the Hungarian Section of Breast Diagnostics of the Hungarian Radiological Society, and vice-president of the French-speaking Radiology Educators' Society (GREF). His contributions to French-Hungarian scientific cooperation have been recognised by the French Republic, which awarded him Knight of National Order of Merit (2012).