



Breast imaging in Russia

An interview with Dr. Olga Puchkova, radiologist at the Federal Center of Medicine and Rehabilitation in Moscow, Russia.

European Society of Radiology: *Breast imaging is widely known for its role in the detection of breast cancer. Could you please briefly outline the advantages and disadvantages of the various modalities used in this regard?*

Olga Puchkova: The best way to reduce breast cancer mortality is through early detection and treatment in the early phase of the disease. It is regular mammography screening that is the scientifically proven method that leads to a significant reduction in breast cancer deaths. But we still have a problem with dense breasts and that is where new technologies such as determination of parenchymal volume on mammograms, ABUS and MRI may have an invaluable role.

ESR: *What kind of screening programmes are in place in your country and where do you see the advantages and possible disadvantages?*

OP: Unfortunately, there are no organised large-scale national mammography screening programmes in Russia. Each region can make their own decision about whether they want to screen or not. In some regions, cities and towns of our huge country some local screening programmes have been launched. That's why we don't have any information about the possible impact of screening on the population of Russia, although its role has been demonstrated in many different research programmes, of which the largest is the Two-County Swedish Trial, with a follow-up over 30 years.

ESR: *Do you know how many women take part in screening programmes in Russia? Do patients have to pay for this?*

OP: In cases where regions or governmental hospitals make a decision to organise a screening programme, it is free for the patient.

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

OP: When a lesion is suspected of being a malignant tumour, we use the multimodality approach to arrive at the final diagnosis. The choice of method used will depend on the nature of the finding. When the lesion is visible on ultrasound, then we perform ultrasound-guided core biopsy. When the finding is an architectural distortion or microcalcifications, that are visible only on the mammogram, the next step is going to be stereotactic larger bore needle biopsy. In difficult cases, the preoperative biopsy can be done under MRI guidance.

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

OP: Today breast imaging modalities can be widely used for preoperative staging, for evaluation of the true extent of the disease, controlling the effectiveness of neoadjuvant chemotherapy and disease recurrence. From my point of view, one of the most successful methods for that purpose is breast MRI.

ESR: *What should patients keep in mind before undergoing an imaging exam? Do patients undergoing radiological exams generally experience any discomfort?*

OP: If one uses modern equipment, such as a digital mammography, breast imaging is safe and it delivers a very low dose of radiation. The presence or absence of discomfort during an examination depends on how skilled and well trained the radiographer is, or whether the patient has dense breasts or masses inside them. One can say that in most cases – when modern equipment is used by a skilled radiographer, the mammographic examination should not be uncomfortable.

ESR: *How do radiologists' interpretations help in reaching a diagnosis? What kind of safeguards help to avoid mistakes in image interpretation and ensure consistency?*

OP: The most important safeguard is double reading. Standardised protocols are also very important. The American College of Radiology (ACR)'s BI-RADS tool helps us a lot in selecting the proper triage and management of our patients. By the way, the BI-RADS atlas has been translated into Russian by Dr. Valentin Sinitsyn and his team thanks to help from Prof. Hedvig Hricak and the ACR.

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

OP: The patient is usually informed by the radiologist who performs all the examinations, but if needed, some other medical specialist (for example, the referring doctor) can be involved too.

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?*

OP: The mammographic examination uses a very low dose of radiation. The benefit of regular mammography screening is well proven, while the risk is still hypothetical and probably does not exist at all.

ESR: *How aware are patients of the risks of radiation exposure? How do you address the issue with them?*

OP: Most of the patients are quite well informed about radiation exposure (it is mentioned in the obligatory informed consent information for the examination), so usually, there is no need for an additional discussion about it. But if we need to comfort the patient, we provide all the necessary information before the examination.

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

OP: We are in close connection with our patients, but in some cases it would be important to provide all necessary information beforehand, before they come to the department, so that the patient has time to read it in a relaxed atmosphere and is able to consider any questions before the procedure.

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?*

OP: I hope that in the near future we are going to experience big changes in the world of breast imaging and cancer care. Breast cancer screening should be available to all women in the eligible age groups all over the world, as this would reduce the mortality rate tremendously. Breast imaging radiologists should work in close cooperation with surgeons and pathologist as a team. All hospitals with breast imaging departments should have an opportunity to perform large-section histology, which can provide radiologists and surgeons with invaluable information about the site of origin of breast cancer, help to describe the true extent of the disease, the presence or absence of multifocality, and many other things which have not only an enormous impact on patients' outcomes, but also add to our knowledge about the disease. New developments in breast MRI, such as abbreviated and accelerated breast MRI, will give us an opportunity to use MRI more widely.

Olga Puchkova, MD is board certified both in radiology and oncology. Her main interest is breast imaging and the early detection of breast cancer. She works as a radiologist at the Federal Center of Medicine and Rehabilitation in the radiology department, in Moscow, Russia, headed by Professor Valentin Sinitsyn. She performs mammography, breast ultrasound, MRI and interventional procedures.

She has been an active participant at numerous teaching courses conducted by leading European and American teachers. She was the first radiologist in Russia to successfully pass the examination for EUSOBI's (European Society of Breast Imaging) European Diploma in Breast Imaging in March 2016. Dr. Puchkova is one of the co-authors of Vol. XI *Diffusely Infiltrating Breast Cancer, Part I* in the 3D book series of Tabar, L, T. Tot and Peter B. Dean.

The same team is working on Vol XII, comparing the diffusely infiltrating breast and stomach cancers (linitis plastica), that share a common gene mutation. Dr. Puchkova has been an invited speaker at the meetings of plastic surgeons, oncologists and radiologists.

