International Day of Radiology 2016
Interview on Breast Imaging
Kazakhstan / Prof. Raushan Ibzhanovna Rakhimzhanova

INTERNATIONAL DAY OF RADIOLOGY
AN INITIATIVE OF THE ESR, ACR AND RSNA

Breast imaging in Kazakhstan

An interview with Prof. Raushan Ibzhanovna Rakhimzhanova, head of the Department for Radiology N2 of the Medical University Astana, President of the Radiological Society of Kazakhstan and President of the Society of Breast Imaging of Kazakhstan.

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?*
Raushan Ibzhanovna Rakhimzhanova: Most hospitals in Kazakhstan's cities are equipped with the necessary modalities for breast imaging. The x-ray mammography works with less than 30kV of tube voltage, so it is safe for screening. Alternatively, ultrasound and MRI are used for diagnosing, characterising and determining the extent of cancer. The benefit of using such modalities is the absence of radiation and the possibility of differentiation of cystic from solid masses, as well as benign from malignant masses. MRI is particularly convenient for evaluating the extent of breast cancer. However, ultrasound is operator-dependent and cannot detect microcalcifications. MRI is not always available due to its cost or logistical constraints, in contrast to ultrasound, which can be used routinely.

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?*
RIR: In Kazakhstan the national Early Breast Cancer Screening Programme for women has operated since 2008 in order to improve breast care service. The screening test aims to find abnormalities at an early stage among women aged between 50 and 60.

ESR: *Do you know how many women take part (percentage) in such programmes? Do patients have to pay for this?*
RIR: Breast cancer is the most common cancer among women in Kazakhstan. Currently, in Kazakhstan there are more than 25,000 women diagnosed with breast cancer; on average each year more than 1,400 women die from this disease. According to an estimation in 2012, among women aged 15 to 44 years there were 25.6 incidences of breast cancer per 100k and among all women 73.5 per 100k in Kazakhstan. The number of deaths was 8.1 per 100,000 women per year. In Kazakhstan diagnosis and treatment of cancer are free of charge.

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?*
RIR: Imaging via different modalities plays an important role from initial diagnosis throughout the evolution of the disease. X-ray mammography, or alternatively ultrasound and MRI, are in use for diagnosing, characterising and determining the extent of cancer in breast lesions.

ESR: *Diagnosing disease might be the best-known use of imaging, but how can imaging be employed in other stages of breast disease management?*
RIR: Classifying and sampling non-palpable cancer, and evaluating the extent of abnormalities using x-ray mammography, MRI and ultrasound is crucial for therapy.

ESR: *What should patients keep in mind before undergoing an imaging exam? Do patients undergoing radiological exams generally experience any discomfort?*
RIR: The general precautions are usually explained to the patient before the test. Discomfort in radiological exams is very rare, as screening has shown.

ESR: *How do radiologists' interpretations help in reaching a diagnosis? What kind of safeguards help to avoid mistakes in image interpretation and ensure consistency?*
RIR: All radiologists are well trained and certified as radiologists, subspecialising in different modalities. They use an algorithm for management of suspected breast cancer, which is different for younger and older women. The other safeguard to follow is called double checking, which involves a second expert checking the work of the first one.

ESR: *When detecting a malignancy, how is the patient usually informed and by whom?*
RIR: Any information will be given to the patient by the radiologist.

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?*
RIR: Regardless of the type of exam requested by the referring physician, the radiologist can choose the modality that they believe to be most suitable. The decision takes into account the personal circumstances and preferences of the patient. Before the examination, the patient fills in the questionnaire form and has a private talk with the radiologist. Also the accuracy of x-ray equipment should be regularly checked by a service officer twice a year.

ESR: *How aware are patients of the risks of radiation exposure? How do you address the issue with them?*
RIR: Radiation safety guidelines are created with the aim of preventing radiation exposure, and should be used by any organisation that uses x-ray radiation. The principle of x-ray mammography and health-related risks is explained by the radiologists to patients personally.

ESR: *How much interaction do you usually have with your patients? Could this be improved and, if yes, how?*
RIR: Interaction with the patient is the most important process and usually lasts up to 15 minutes. This is enough to accept a decision.

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?*
RIR: Unfortunately, according to the statistics on breast cancer, there is a trend that shows more young women under the age of 40 are developing breast cancer. The focus should be placed on public awareness activities because early detection can increase the chance of a positive outcome. So in future, screening programmes should include the young population. Also other methods will be available like gene indicators, and modalities of imaging that do not use ionising radiation.

Dr. Raushan Ibzhanovna Rakhimzhanova is a doctor of medicine, professor, and academic at the Academy of Preventive Medicine, and graduated from Karaganda State Medical Institute, Kazakhstan. She is President of the Radiological Society of Kazakhstan and President of the Society of Breast Imaging of Kazakhstan. She is a head of the department of radiology N2 of Medical University Astana. Prof. Rakhimzhanova organised the training centre and department for education and training of radiologists and radiographers at Medical University Astana. She contributed to the

improvements in the Breast Care Imaging Service and the organisation of the early diagnosis of breast cancer in Kazakhstan. Prof. Rakhimzhanova has been awarded with certificates for ‘Excellence in Healthcare in Kazakhstan’ and ‘Best Doctor of the University’, and certificates of merit from the Ministry of Health of Kazakhstan. For her and long-term work and great contribution to the development of healthcare she was awarded the honorary title ‘Honoured Worker of the Republic of Kazakhstan’ by the decree of the President of the Republic of Kazakhstan. Prof. Rakhimzhanova is the author of over 200 scientific works, including two monographs (in Kazakh and Russian), and 18 recommendations.