TECHNICAL NOTE

Basic tests in mammography as a tool in quality improvement
Anna Kowalik, Ewelina Konstanty

A B S T R A C T

Background: Mammography is a radiological diagnostic method which relies on an X-ray examination of breasts and is a process involving the use of low-dose amplitude-X-rays (usually around 0.7 mSv). Combining the use of small doses and high quality images requires extensive quality protocols, part of them being included in regulations adopted by the Minister of Health.

Aim: The aim of this study was to check the usefulness and efficacy of selected quality tests associated with mammography.

Material&methods: The study was performed in the mammography service of the Greater Poland Cancer Centre in Poznan. Following equipment was used: densitometer, sensitometer, mammographic scales, electronic scales, thermometer, hygrometer, PMMA plates, Europhantom, screen film contact phantom, viewing boxes and magnifying glasses. The methods were based on basic mammography tests. Quality control in mammography demands: clean darkroom, marked and clean cassettes, clean viewing boxes with homogenous light.

Results: The results of the “Development Process” test show that each sensitometer has to be used with an appropriate densitometer. Phantoms with abnormal structures cannot be used to “AEC System – Solidity exposure” test. “Compression – The force of compression” test may only be carried out with suitable scales and compressible material. Analysis of rejected films shows that the main reasons for rejection were wrong collimation and underexposure.

Conclusion: Every quality control in mammography provides essential information about the functioning of a laboratory. Apart from recommended standard sterility, it should be remembered that equipment should always be adjusted and repaired.

Keywords: Mammography, Basic tests, Quality control, Densitometer Sensitometer