

Optimizing Exposure Parameters in Digital Mammography: A Study in Morocco

Authors : Talbi Mohammed, Oustous Aziz, Ben Messaoud Mounir, Sebihi Rajaa, Khalis Mohammed

Abstract : Background: Breast cancer is the leading cause of death for women around the world. Screening mammography is the reference examination, due to its sensitivity for detecting small lesions and micro-calcifications. Therefore, it is essential to ensure quality mammographic examinations with the most optimal dose. These conditions depend on the choice of exposure parameters. Clinically, practices must be evaluated in order to determine the most appropriate exposure parameters. Material and Methods: We performed our measurements on a mobile mammography unit (PLANMED Sofie-classic.) in Morocco. A solid dosimeter (AGMS Radcal) and a MTM 100 phantom allow to quantify the delivered dose and the image quality. For image quality assessment, scores are defined by the rate of visible inserts (MTM 100 phantom), obtained and compared for each acquisition. Results: The results show that the parameters of the mammography unit on which we have made our measurements can be improved in order to offer a better compromise between image quality and breast dose. The last one can be reduced up from 13.27% to 22.16%, while preserving comparable image quality.

Keywords : Mammography, Breast Dose, Image Quality, Phantom

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