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Radiation dose measurement and cancer risks estimation from digital mammography in Sudan

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Radiation doses from mammography are getting more attention from the radiation protection bodies, as screening and regular (annual) check-ups becoming more important for early detection of breast cancers in women aged 40 and older. Digital mammography was approved by FDA in early 2000. The objectives of this study are to Measure the radiation doses and estimate the lifetime attributable risks of radiation-induced cancer incidence from digital mammography studies involving the use of ionizing radiation in Sudan. A total of 45 women (age between 35 and 60) were screened. Three views craniocaudal, mediolateral and mediolateral oblique were done for each woman for both left and right breast as a department screening protocol. The mean age was 44.84 years, the mean kV and mAs were 29.23 and 79.45 respectively. The mean breast thickness and compression force (dN) were 47.85(mm), 17.64 (dN) respectively. The mean granular dose (MGD) per view and lifetime attributable cancer risk (LAR) were 1.07(mGy) and 6.95 per 100.000. The (MGD) and (LAR) were high compared to the published literature, the use of three views as screening protocol is neglected according to ALARA regardless the size of the detector of the mammography machine.

Biography

Elbagir Manssor has completed his Ph.D. in diagnostic radiologic technology at the age of 42 years from Sudan University for Science and Technology. He is a lecturer at Prince Sattam bin Abdulaziz University; he has great concerns regarding radiation protection and medical education. He has published more than 7 papers in reputed journals in different areas of medical imaging.

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