METHODS AND TOOLS FOR RISK REDUCTION OF BREAST TOMOSINTHESIS

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Breast cancer continues to be a significant public health problem in the world and the most common among women. It is the most common type of cancer among women in the world and in Brazil, after non-melanoma skin, accounting for about 25 percent of new cases each year. In Brazil, breast cancer is the second type of cancer that most affects the female population followed by non-melanoma skin cancer. An estimated 57,960 new cases of breast cancer by 2017 in Brazil are estimated. Therefore, systematic monitoring of image quality and radiation dose is a solution to continuously ensure the high quality of mammography screening. Breast Digital Tomosynthesis (BDT) is a technique that acquires multiple images obtained from different angulations of the X-ray tube. The DBT reduces the effects of breast tissue overlap and may offer a better characterization of the findings and reducing the need for additional incidences with a potential to detect hidden cancers on mammography. The objective of this research was to develop the methodology for the quality control tests involving the determination of technical (phantoms) and clinical (patient) image quality parameters in breast tomosynthesis equipment and the creation of devices and techniques for the analysis of images to evaluate the quality of services. Acknowledgments. The authors are thankful to CDTN/CNEN, CNPq sem fronteiras. This work was supported by FAPEMIG and CNPq.