Contact thermography as an effective tool for detection of breast cancer in correlation with ultrasound and mammography

The aim of the workshop is to review and discuss cases of breast cancer in women, in which one of the diagnostic tests is contact thermography, a non-invasive method, which uses heat conduction for imaging, to reveal changes in the breast gland. Current information suggests that tumors, through a developed network of pathological vessels, are characterized by increased metabolic activity, in comparison to healthy tissues. On liquid crystal matrices, we observe the presence of focal or linear hyperthermia detected by contact thermography on the breast surface. The essence of the subject is to show the correlation between commonly available diagnostic tools such as ultrasonography and mammography in contrast to contact thermography. The data will be presented from individual case studies for various breast structures. Especially in the case of a dense breast tissue, where thermography may play a role in early detection of breast cancer in women for whom mammography is not an indicated diagnostic tool due to ionizing radiation and reduced sensitivity. Very dense breasts may increase the risk that cancer won't be detected on a mammogram.

Biography

Anna Ćwierz is a specialist in radiology, particularly interested in multimodal breast diagnostics. She graduated from the Faculty of Medicine, Collegium Medicum in 2009, and completed a year-long post-graduate internship at The University Hospital in Krakow.

Ćwierz accomplished her five-year specialty training at The Maria Skłodowska-Curie Institute of Oncology in Krakow. In 2016, she received a European Diploma in Radiology (EDIR) in Vienna, and became a Radiology and Imaging Diagnostics specialist. At present, she works as a radiologist at a general hospital in Krakow.

Dr. Ćwierz performs USG, CT, and MRI examinations, as well as image-guided organ biopsies. Among her professional interests, there is the development of new breast cancer diagnosis technologies, including contact thermography, designed by Braster team; she improves her skills by taking part in numerous courses, as well as local and international conferences. Dr. Ćwierz is a member of the Polish Medical Society of Radiology (PLTR) and the European Society of Radiology (ESR).

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DOI: 10.4172/2167-7964-C1-015

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