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**TITLE** Association of breast density with breast cancer risk in screening mammography

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### ABSTRACT

#### PURPOSE

The purpose of this study was to assess the distribution of breast density of the patients with detected breast cancer during mammography screening, and to evaluate the association of high mammographic density and breast cancer.

#### METHOD AND MATERIALS

We used data from National Breast Screening Programme in a single county. Women age 50-69 years have been invited every two years for mamography screening. 52962 mamography exams have been done during 5 years at 5 mammography units. Density analysis was performed from one craniocaudal and one mediolateral view from both breasts. The percent of the area of the mammogram occupied by radiologically dense breast tissue was determined by two independent radiologists who estimated visually the proportion of the occupied area. According to ACR (American College of Radiology) criteria breast density has been categorized into four groups: 1-almost entirely fatty, 2-scattered fibro-glandular densities, 3- heterogeneously dense, 4-extremely dense. Each woman with detected carcinoma was added her matching control: the woman of same age and same place of living. Patients were divided into low density breast tissue group (ACR density group 1-2) and high density breast tissue group (ACR 3-4) and data was compared between these two groups.

#### RESULTS

Out of 230 detected breast cancers, 6% were stage 0, 47% stage I, 17% stage II and 28% stage III/IV, according to AJCC criteria. Mammographic density distribution in breast cancer patients was as following: 47.64% in ACR1 group; 36.32% ACR2; 13.21% ACR3 and 2.83% ACR4. Low mammographic density (<50% parenchyma) had 83% patients in breast cancer group vs 89% controls; high mammographic density (>50% parenchyma) had 17% breast cancer patients vs 11% controls. There was no significant difference in mamographic density between breast cancer and control group: Fisher's exact test p=0.083 (OR=1.65 95% CI=0.97-2.81; z=1.85, p=0.064).

#### CONCLUSION

Our results suggest that higher mammographic densities were not associated with higher risk of breast cancer among menopausal women. Majority of screened woman have low breast density. Mamography is efficient method for early detection of nonpalpabile breast cancer.

**CLINICAL RELEVANCE/APPLICATION**

Mamography is the best tool for population-based breast cancer screening.

**FIGURE (OPTIONAL)**

**DISCLOSURES**

1.) Natasa Katavic, MD (*Presenter*) Nothing to Disclose

**FDA ICON**

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