

# 7<sup>th</sup> WORLD CONGRESS ON BREAST CANCER

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## Breast cancer: Correlation of ultrasonographic features with molecular subtype

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**Aims & Objectives:** The purpose of this study is to correlate the ultrasonographic features of previously diagnosed malignant breast cancers with their hormone receptor expression.

**Methods & Materials:** The malignant breast nodules diagnosed by ultrasonographic-guided core biopsy, at our regional oncologic center, from July to December 2016 (n=172), had their ultrasound features retrospectively reviewed according to the breast imaging- reporting and data system (BI-RADS) lexicon. For each case the molecular subtype was obtained, consisting of positivity/negativity for hormone receptors (HR) and human epidermal growth factor receptor 2 (HER2), and correlated to the ultrasonographic characteristics. The statistical analysis was conducted using the software Statistical Package for Social Science (SPSS) v24, and a descriptive analysis using percentages was carried out, applying chi-square test for categorical data. A significance level of  $p < 0.05$  was used to determine significance.

**Results:** HER2 and HR positive lesions showed more frequently an irregular morphology (78.6%,  $p=0.002$ ) and non-parallel orientation (78.6%,  $p=0.033$ ). HER2 positive and HR negative lesions presented more commonly an irregular morphology (94.4%,  $p=0.000$ ), non-parallel orientation (88.9%,  $p=0.01$ ) and lobulated margins (61.1%,  $p=0.016$ ). HER2 negative and HR positive lesions had more often an irregular morphology (85.4%,  $p=0.000$ ), non-parallel orientation (88.8%,  $p=0.000$ ), lobulated margins (49.4%,  $p=0.000$ ) and posterior attenuation (65.2%,  $p=0.004$ ). HER2 and HR negative (triple negative) lesions showed mainly an irregular morphology (94.1%,  $p=0.000$ ), non-parallel orientation (88.2%,  $p=0.002$ ), lobulated margins (58.8%,  $p=0.028$ ), and heterogeneous echotexture (82.4%,  $p=0.008$ ).

**Conclusion:** Knowledge of distinctive ultrasonographic phenotypes according to molecular subtypes could be important for earlier diagnosis and treatment, and ultimately improve outcomes.

### Biography

Inês Vieites Branco is currently a third year Radiology Resident at Centro Hospitalar Vila Nova de Gaia-Espinho, Portugal, and has completed her Master's degree in Medicine from Instituto de Ciências Biomédicas de Abel Salazar- Porto, Portugal.

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