

“LUMINAL A - TRIPLE NEGATIVE” BREAST CANCER

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Background

Triple-negative breast carcinomas (TNBCs) are defined by the absence of hormone receptors (ER, PGR) and HER2 overexpression, and account for 10–17% of all breast cancers¹. They are usually Basal-like intrinsic molecular subtype and associated with poor outcomes. TNBCs are not eligible to breast cancer genomic testing because of their negativity for ER and PGR. Here we present two cases of invasive lobular TNBCs (TNBC-ILCs) with discordant result at Prosigna/PAM50 test.

Case presentation

Case 1: A 61-year-old female with a 2 cm ILC, G3, node negative. ER (Dako Clone EP1) and PGR (Dako Clone PgR 1294) were negative, HER2 (HercepTest Dako) absent (score test 0) and proliferating fraction (Ki67) 10%. Prosigna/PAM50 test results Luminal A (ROR score 27 and a 4% probability of distant recurrence).

Case 2: A 76-year-old female patient presented with a 2,1 cm ILC, G3, node negative. ER (Dako Clone EP1) and PGR (Dako Clone PgR 1294) were negative, HER2 (4B5 Ventana) absent (score test 0) and proliferating fraction (Ki67) 5%. Prosigna/PAM50 test results Luminal A (ROR score 23 and a 4% probability of distant recurrence).

Based on molecular results, we perform in both cases AR immunostaining that show strongly positivity (>90%) providing evidence that AR could be the driver of the luminal phenotype observed in these two cases of TNBC-ILCs².

Conclusions

The prognosis of TNBC was significantly impacted by the intrinsic molecular subtype's classification because luminal BC seemed to have a very low risk of distant recurrence. Even if breast cancer genomic test are not currently refundable in TNBCs, here we show the key role of PAM50 test in AR positive lobular histotype BCs in order to define the exact molecular intrinsic subtype for therapeutic and clinical approach.

1. Bergeron et al. Triple-negative breast lobular carcinoma: a luminal androgen receptor carcinoma with specific ESRRA mutations. *Mod Pathol* 2021. doi: 10.1038/s41379-021-00742-9.

2. Conforti et al.: Biological and clinical features of triple negative Invasive Lobular Carcinomas of the breast. *Clinical outcome and actionable molecular alterations. Breast* 2021. doi: 10.1016/j.breast.2021.06.011