

Abstract 3113- Clinical implication of tissue re-biopsy in metastatic breast cancer (MBC) patients: a single centre retrospective analysis.

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BACKGROUND

The "receptor conversion phenomenon" is a well-documented event during metastatic progression of breast cancer (BC), which result in Hormone Receptor and Human Epidermal Growth Factor Receptor 2 (HER2) status discordance between primary tumor and metastatic site. This phenotypic switch, related to tumor heterogeneity and/or change in cancer biology, may influence treatment plan in metastatic setting. Our retrospective analysis aimed to assess receptor status changes and their therapeutic and prognostic implications in a real word population.

METHODS

Data from 190 MBC patients relapsed from January 2017 and March 2021 treated at Oncology Unit of University of Campania "Luigi Vanvitelli" were retrieved. In this analysis, we included 47 consecutive patients who performed re-biopsy at the time of first disease progression. Estrogen receptor (ER), progesterone receptor (PR), HER2 at baseline and at progression were recorded.

TYPE OF RECEPTOR	SWITCH FROM POSITIVE TO NEGATIVE	SWITCH FROM NEGATIVE TO POSITIVE
ER	6 (13%)	5 (11%)
PR	3 (6%)	6 (13%)
HER2	4 (8%)	9 (19%)

Table.1 Discordance in biomarkers between primary tumor and metastases

RESULTS

Re-biopsy was performed on liver, breast, lymph nodal and lung metastases in 30%, 27%, 21% and 19% of cases, respectively. We found 70% of discordance in receptor status between primary BC and biopsy from the metastatic site. Overall, 11 (23%), 9 (19%) and 13 (28%) of cancers had a change in ER, PR and HER2 status, respectively. ER negative to positive switch was observed in 5 patients (11%), while ER loss was registered in 6 patients (13%). Regarding PR status, 6 patients (13%) changed from negative to positive and only 3 (6%) patients reported the loss of PR expression. Conversion of HER2 status from negative to positive occurred in 9 patients (19%), viceversa change from positive to negative was registered in 4 (8%) patients. Interestingly, the switch to HER2 positivity was more likely observed in patients diagnosed with HER2 1+ or 2+ (namely HER2 low immunophenotype) BC (66% of cases). Due to the new immunophenotypic profile, systemic treatment was changed in 19 patients (40%).

CONCLUSIONS

The re-biopsy, if feasible, is recommended at the time of disease progression, to investigate the phenotypic discordance and to choose the most appropriate treatment strategy of relapsed MBC

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NO CONFLICT OF INTEREST TO DECLARE