TUMOR INFILTRATING LYMPHOCYTES AND CORRELATION WITH pCR IN THE CHER-LOB STUDY.
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Background
Tumor infiltrating lymphocytes (TIL) are emerging as a strong prognostic factor and as a predictive biomarker for response to neoadjuvant therapy in breast cancer, especially for the triple negative and HER2-positive subtypes.1

Recently, the infiltration was predicted to predict for the efficacy of trastuzumab in HER2-positive breast cancer.6

Aims
- To correlate TIL at baseline with pCR for HER2-positive BC patients treated with neoadjuvant chemotherapy plus anti-HER2 agents.
- To evaluate the changes in TIL before and after neoadjuvant treatment for HER2-positive BC patients treated with neoadjuvant chemotherapy plus anti-HER2 agents not achieving a pCR.

Methods
Patients: 121 HER2-positive stage II-IV breast cancer patients enrolled in the phase III neoadjuvant ChEExpressions study who were randomized to anthracyclines/taxane-based chemotherapy plus trastuzumab, lapatinib, or both.1 Study design and results are reported in Figure 1.

Results
The flow of patients through the ChEExpressions TIL evaluation study and the sample size of the populations considered for each analysis are reported in Figure 2.

Figure 2.

1. Study flow

2. Clinicopathological characteristics

Table 2.

3. Correlation between TIL and pCR

Table 3.

Conclusions

The presence of a lymphocyte tumor infiltration at baseline predicts pCR rates after 11 months of treatment in anti-HER2 agents for HER2-positive tumors.

The predictive effect of TIL for pCR was more evident in case of dual HER2 blockade: patients treated with C+I+LAP+T achieved 83% pCR rate.

Correlation between LBPCL phenotype and pCR was limited to ER-negative patients.

Tumor lymphocyte infiltration may increase after anti-HER2 agents; this was observed especially in HER2+ ER+ patients and for patients treated with Laphatin.

Lapatinib-containing treatments may be able to convert from non-LPBC to LBPCL.

Confirmation of these data in larger datasets is warranted. Updating of follow-up is ongoing in view of potential correlations between TIL and survival are planned.