Neoadjuvant trastuzumab in HER2 positive breast cancer, does pathological complete response exist?

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BACKGROUND

- Patients with HER2-positive (HER2+) breast cancer in II-A stages treated with neoadjuvant chemotherapy plus trastuzumab (NCT), increased pathological complete response (pCR) to 65.2%.
- Local advanced breast cancer (LABC) including inflammatory carcinoma, reported in 38%.
- Disease-free survival (DFS), and overall survival (OS) is better, and pCR is considered as a good prognostic factor.
- pCR is greater in pure HER2+ subtype (50%) compared to Luminal/HER2+ (31%).
- Central nervous system (CNS) metastases could occur in 30-50% over time, with median survival of 2 years.
- OBJECTIVE: To identify patients with HER2+ breast cancer that could relapse, especially in CNS even with pCR after NCT

METHODS

- A retrospective cross-sectional study was conducted, including patients with HER2+ breast cancer II-A stages treated with NCT.
- Inclusion years were from 2000 to 2014, with at least 16 months of follow-up.
- pCR was defined as absence of invasive carcinoma in surgical specimen.
- OS was calculated since first chemotherapy and DFS since surgery.
- Surrogate molecular subtypes were classified.
- Proportions test and logistic regression were used for analysis as appropriate.
- P value <0.05 was statistically significant (two-sided).

RESULTS

- No pCR were identified in stage I or grade-1 tumors.
- LABC were documented in 34.7% with median tumor size of 4.5 cm.
- The mean preoperative trastuzumab applications were 5 doses.
- Conservative surgery was done in 17.2%, and mastectomy in 82.6%.
- Luminal/HER2+ were reported in 141 (46.7%), and pure HER2+ in 161 (53.3%).
- Pure HER2+ cases have some differences compared to Luminal/HER2+ cases (p<0.05).
- LABC have:
  - Less early stages (6.2% vs. 12.8%)
  - More inflammatory carcinomas (26.7% vs. 13.5%)
  - Higher Ki67 expression (30% vs. 20%)
  - Less conservative surgeries (10.75% vs. 28.2%)
- pCR were in 138 (46.1%), and non-pCR in 161 (53.8%).
- Differences between patients are shown in Table 1.

CONCLUSIONS

- pCR in HER2+ LABC was a little higher with known factors to pCR development.
- Visceral recurrence was more frequent, especially to CNS, the one occurred in 9 years from first chemotherapy, and affected 50% of all relapsed patients over time, regardless the first site of recurrence.
- Patients with pure HER2+, and with extracapsular invasion, need to be follow-up closer to identify pCR relapse, and evaluate the integration of routinely CNS computed tomography or magnetic resonance as part of follow-up studies even in presence of pCR.

REFERENCES