Patient quality of life from the GeparX trial on the addition of denosumab to two different nab-paclitaxel regimens as neoadjuvant chemotherapy in primary breast cancer

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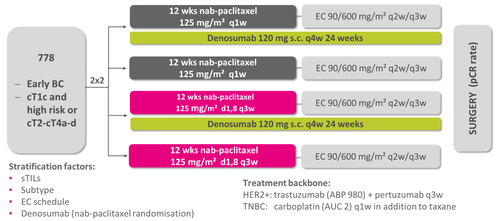
Background

The phase III prospective randomized GeparX study (NCT02682693) investigated the efficacy and safety of adding denosumab to standard neoadjuvant chemotherapy (NACT) in two different nab-paclitaxel (nP) schedules for primary breast cancer. The addition of denosumab to NACT did not improve pathological complete response (pCR) rates but nP weekly (q1w) significantly increased pCR rate compared to d1,8 3-weekly (q3w) schedule. The q1w schedule was associated with higher toxicity[1]. Here we present the results of the quality of life (QoL) analysis.

Patients and Methods

Patients were randomized to receive or not receive denosumab and to either nP q1w or nP d1,8 q3w schedule followed by epirubicin/cyclophosphamide (EC) (Fig.1)[1]. QoL was assessed at baseline (BL), after nP, at end of treatment and 90 days (90d) post surgery using the Functional Assessment of Cancer Therapy-Taxane (FACT-Taxane) questionnaire including FACT-G total and FACT-Taxane Trial Outcome Index (TOI) scales. Higher mean scores indicate better functioning and QoL. Repeated measures mixed models including BL value as a random effect and treatment, time, and treatment by time interaction as fixed effects were used to compare the QoL scores based on the safety set.

Figure 1: Study design



Results

Between 02/2017 and 03/2019, 780 patients were randomized and started treatment, of whom 766 (98.2%) were eligible for QoL analyses. 376 patients received denosumab versus 390 who did not; 394 patients received nP q1w compared to 372 with nP d1,8 q3w. BL parameters were well balanced[1].

Figure 2: FACT-Taxane total scores according to denosumab randomisation

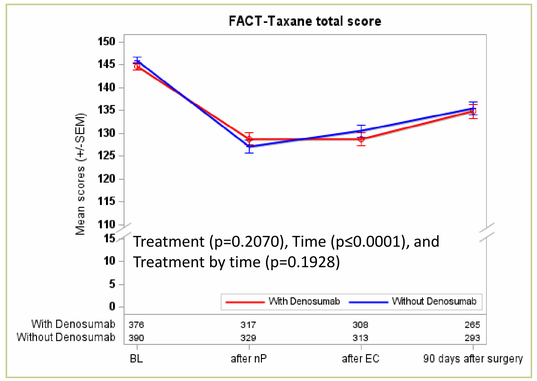


Figure 3: FACT-Taxane total scores according to nab-paclitaxel randomisation

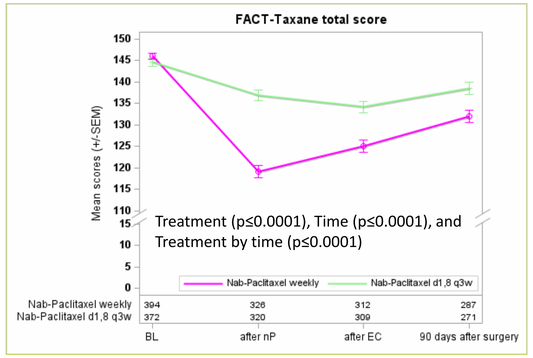


Figure 4: Physical well-being (A) and functional well-being (B) scores according to nab-paclitaxel randomisation

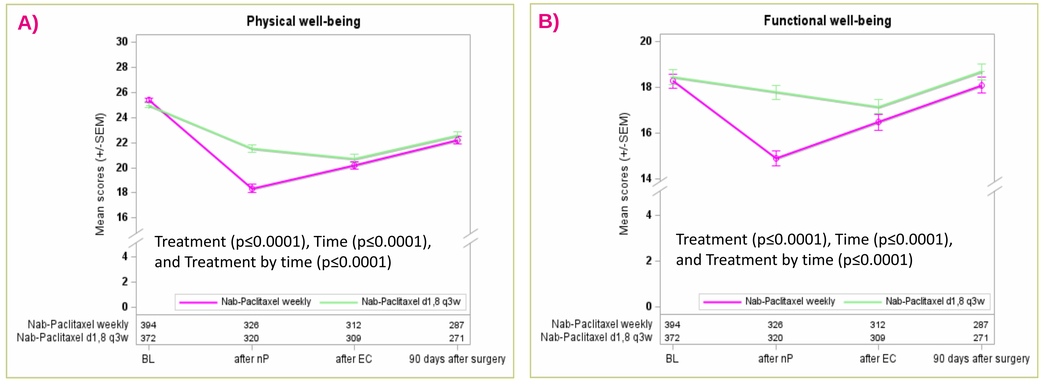
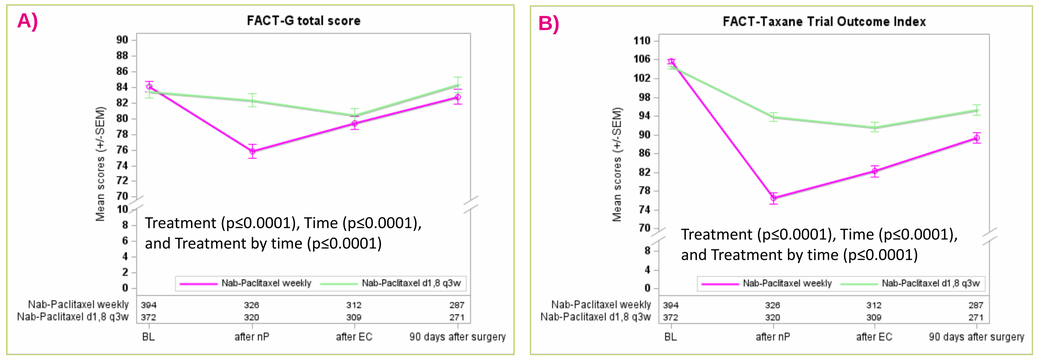


Figure 5: FACT-G total (A) and FACT-Taxane TOI (B) scores according to nab-paclitaxel randomisation



Questionnaire completion response remained >70% throughout the trial. The addition of denosumab did not change any aspect of QoL scores at any evaluated time point (Fig. 2).

Patients receiving nP q1w reported significantly lower mean FACT-Taxane total scores (at BL: 146.0 with nP q1w vs 144.6 with nP d1,8 q3w and after nP: 119.2 with nP q1w vs 136.9 with nP d1,8 q3w, Fig. 3).

The mean scores of physical and functional well-being (Fig. 4), FACT-G total and FACT-Taxane TOI scores (Fig. 6) significantly differed, favouring nP d1,8 q3w in all post-BL assessments (p<0.001). The decreased well-being with nP q1w partly persists 90d post surgery (Fig.4).

Social/family and emotional aspects were not affected by any of the applied nP schedules (data not shown).

Conclusions

nP q1w led to a significantly higher pCR rate but is associated with impaired QoL compared to nP d1,8 q3w, which is consistent with the higher toxicity reported for nP q1w[1]. The correlation between QoL and dose intensity of nP[2] or other taxans versus taxane-free schedules[3] have been described in literature in patients with early[3] and metastatic breast cancer[2]. Benefit and risks need to be discussed with the patients considering the curative setting in early breast cancer.

References

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2. Taira N, et al. Breast Cancer. 2021
3. Willson ML, et al. Cochrane Database Syst Rev. 2019

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