

LETTER TO THE EDITOR

Do Early Breast Cancer Patients with Only Sentinel Lymph Node Biopsy Experience Lower Psychological Morbidity Over Time?

To the Editor:

Although many overall quality of life (QOL) studies comparing patients with early breast cancer who underwent axillary lymph node dissection (ALND) versus sentinel lymph node biopsy (SLNB) have already been performed and have shown a benefit for SLNB (1–4), there are few data available regarding the specific impact of SLNB on psychological morbidity over time (5–7). We therefore decided to assess whether or not having only SLNB, a very conservative procedure, could influence how patients perceived the disease, i.e., their awareness of its seriousness, thus minimizing anxiety levels.

In a prospective, longitudinal study, we compared QOL and psychological morbidity in a consecutive series of newly diagnosed primary-breast-cancer patients who underwent primary breast surgery following internal guidelines: quadrantectomy and SLNB with or without subsequent ALND according to the result of intraoperative examination of the sentinel node: the patient had ALND only if the SLNB was positive. Study eligibility criteria were as follows: invasive early breast cancer (stages I or II); breast-conserving surgery; SLNB performed during surgery; patient age greater than or equal to 18 years. The SLNB technique used at IEO (European Institute of Oncology) has been previously described (1).

Quality of life and psychological morbidity were assessed using the Functional Assessment of Cancer Therapy-Breast quality of life (FACT-B) and the Hospital Anxiety and Depression Scale, at baseline, 1 day before and 3, 6, 9, 12, and 18 months after surgery.

Between November 2005 and February 2007, 280 patients were screened. Of the 234 assessed patients

who had quadrantectomy and sentinel node biopsy (SLNB), 62 had ALND. Among patients characteristics no significant differences were detected for any patients except for age and for a higher percentage of chemotherapy treatments in the ALND subgroup (32 [50.0%] versus 29 [17.0%]; $p < 0.001$).

The FACT-B total score showed that women undergoing ALND had a significant, more rapid worsening of QOL at 3 months ($p = 0.01$). Overall, improvement of global QOL occurred over time in both cohorts and multivariate statistical analysis showed that changes were correlated with time ($p < 0.001$). Changes in global QOL were not correlated with the type of surgery ($p = 0.09$), chemotherapy ($p = 0.74$) or age ($p = 0.75$).

When we analyzed two of FACT-B subscales, namely the Breast Cancer subscale (BCS) and the Emotional Well-Being subscale (EWB) (see Fig. 1), we observed significantly lower scores and a significantly faster deterioration of QOL at 3 months in the ALND subgroup. A multivariate analysis showed a significant correlation of EWB scores with time ($p < 0.001$).

The anxiety subscale indicated particularly high levels of anxiety and low scores regarding depression in both cohorts and no significant differences were registered. Both subscales decreased significantly ($p < 0.001$) over time becoming nearly stable from 6 months onward. Changes were correlated with time, but not with the type of surgery. The multivariate analysis did not detect any statistically significant factors affecting the decrease over time (Depression: $p = 0.67$ for surgery, $p = 0.97$ for chemotherapy, $p = 0.82$ for age, and $p = 0.36$ for the interaction term surgery \times time. Anxiety: $p = 0.60$ for surgery, $p = 0.35$ for chemotherapy, $p = 0.09$ for age and $p = 0.19$ for surgery \times time interaction).

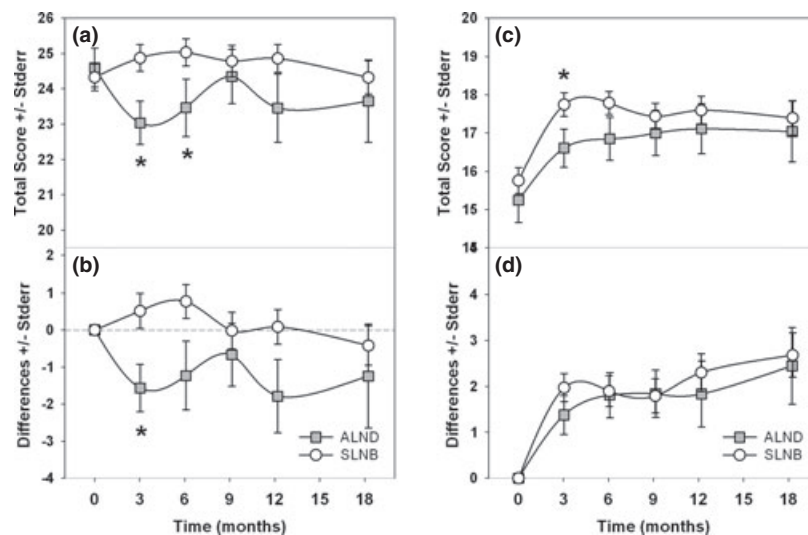
Compared with previous QOL studies, our study provides significant, interesting information regarding one dimension of QOL analyzed by FACT-G, but not mentioned by other authors (7): emotional well-being.

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Figure 1. Breast cancer module (BCS) (a and b) and emotional well-being (EWB) (c and d) subscale profiles. Total scores for BCS were significantly different for ALND group and SLNB group at 3 ($p = 0.01$) and 6 months ($p = 0.04$) (a). Changes with respect to baseline were also significantly different ($p = 0.01$) between ALND group and SLNB group, but only at 3 months. EWB score was significantly ($p = 0.03$) higher for the SLNB group at 3 months only.



At 3 months, ALND patients had significantly lower scores compared to SLNB patients; EWB score was significantly higher for the SLNB subgroup only at 3 months, which was indicative for less emotional problems.

As with several studies (1,4,5,7), our results clearly showed that short-term QOL decreased significantly after surgery in both cohorts. Patients who had ALND needed more time to recover physically over time. The only study using our same specific surgical technique assessed QOL (1), but did not assess QOL at 3 months. Interestingly, in our results we observed that the significantly faster deterioration of overall QOL was registered at that specific time point only (3 months after surgery) in the ALND subgroup and was associated always at that specific time point only (1) with a significantly lower and faster deterioration on BCS score, (2) with a significantly lower EWB score, which was indicative of higher emotional vulnerability of ALND patients, results not mentioned by other authors (7).

We hypothesize that this poorer well-being at 3 months may be explained by the emotional stress of “leaving” the protective hospital environment after the end of local treatment (surgery and radiotherapy): it is some kind of separation that added to the discomfort of a more aggressive treatment (axillary dissection, axillary irradiation, and chemotherapy).

Regarding anxiety and depression scores, we failed to observe any significant differences between the subgroups over time as expected. We found particularly low scores regarding depression and particularly high

levels of anxiety in both subgroups, which decreased in the course of time, but remained in a range indicating psychological morbidity until 12 months after surgery. These results may be explained by the impact of cancer diagnosis and a stressful and life-threatening trauma.

To conclude, in our study, we obtained interesting findings not yet published about SLNB and ALND patients especially at 3 months. Women with ALND were significantly more vulnerable at a physical and emotional level and needed more attention and support at 3 months after surgery. Our study also showed that the presence of negative nodes and the minimally invasive surgical method (SLNB) did not reduce psychological morbidity. Changes in anxiety and depression scores were correlated with time, but not with the type of surgery and anxiety scores are high within the first year after surgery in both groups. This study is limited by the fact that there were fewer patients in the ALND subgroup than in the SLNB subgroup; also the long-term follow-up sample was short. However, beyond these limits, it is reasonable to infer that all patients should be informed they are likely to experience anxiety during the first year after cancer diagnosis and should be offered counseling. Women in the ALND subgroup especially at 3 months clearly require greater attention. In this Letter we want to underline the fact that these women should be also encouraged to request psycho-social support, if needed. There is the risk to underestimate the psychological distress of these women especially at 3 months because nobody has yet underlined this information in literature.

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REFERENCES

1. Peintinger F, Reitsamer R, Stranzl H, Ralph G. Comparison of quality of life and arm complaints after axillary lymph node dissection vs. dissection sentinel node biopsy in breast cancer patients. *Brit J Cancer* 2003;89:648–52.
2. Veronesi U, Galimberti V, Mariani L, *et al.* Sentinel node biopsy in breast cancer: early results in 953 patients with negative sentinel node biopsy and no axillary dissection. *Eur J Cancer* 2005;41:231–7.
3. Rietman JS, Geertzen JH, Hoekstra HJ, *et al.* Long term treatment related upper limb morbidity and quality of life after sentinel lymph node biopsy for stage I or II breast cancer. *Eur J Surg Oncol* 2006;32:148–52.
4. Koostra J, Hoekstra-Weebers JE, Rietman H, *et al.* Quality of life after sentinel lymph node biopsy or axillary lymph node dissection in stage I/II breast cancer patients: a prospective longitudinal study. *Ann Surg Oncol* 2008;15:2533–41.
5. Purushotham AD, Upponi S, Levesath MB, *et al.* Morbidity after sentinel lymph node biopsy in primary breast cancer: results from a randomized controlled trial. *J Clin Oncol* 2005;23:4312–21.
6. Del Bianco P, Zavagno G, Burelli P, *et al.* Morbidity comparison of sentinel lymph node biopsy versus conventional axillary lymph node dissection for breast cancer patients; results of the sentinella-GIVOM italian randomised clinical trial. *Eur J Surg Oncol* 2008;34:508–13.
7. Fleissig A, Fallowfield LJ, Langridge CI, *et al.* Post-operative arm morbidity and quality of life. Results of the ALMANAC randomized trial comparing sentinel node biopsy with standard axillary treatment in the management of patients with early breast cancer. *Breast Cancer Res Treat* 2006;95:279–93.