Original Article

Pain, Sensory Disturbances, and Psychological Distress among Danish Women Treated for Ductal Carcinoma In Situ: An Exploratory Study

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Abstract:

Ductal carcinoma in situ is a noninvasive precancer condition. The treatment resembles the treatment of invasive breast cancer. The aim of this exploratory study was to gain knowledge on the level of postoperative pain, sensory disturbances, and distress among a small group of Danish women with ductal carcinoma in situ who had sentinel lymph node biopsy in order to plan a population study. A subgroup of patients with ductal carcinoma in situ (n = 20) was compared to patients with invasive breast cancer (n = 455) at time of diagnosis and after 12 months. Six patients were interviewed on the impact of the diagnosis and life after treatment. We found no significant difference in reported sensory disturbances or pain after 12 months between the groups. More than one-third (39%) of ductal carcinoma in situ patients reported moderate to severe distress (≥ 7 on the Distress Thermometer) at time of diagnosis decreasing to 10% after 12 months. Similarly 36% of breast cancer patients reported distress at time of diagnosis and 10% after 12 months. Interviews confirmed that ductal carcinoma in situ patients experienced distress and also uncovered physical problems and rehabilitation needs. The study indicates that women with ductal carcinoma in situ seem to suffer from pain and distress. The study highlights the need for a large study in order to validate the findings. Additional efforts may be needed to improve patients' understanding of diagnosis of ductal carcinoma in situ and alleviate psychological morbidity and physical restraints related to the condition.

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The incidence of ductal carcinoma in situ (DCIS) has increased since the implementation of a national breast cancer screening program in Denmark with more than 450 new cases each year and a rapidly growing population of DCIS survivors. DCIS is a premalignant noninvasive breast condition. DCIS patients have an excellent prognosis after treatment. The treatment of DCIS can include breast-conserving surgery (BCS), mastectomy, sentinel lymph node biopsy (SLNB), and breast radiation and resemble the loco-regional treatment of invasive breast cancer (IBC). These treatment modalities have been shown to cause persistent pain, sensory disturbances, and disabilities among women with IBC (Gartner et al., 2009; Mejdahl, Andersen, Gartner, Kroman, & Kehlet, 2013; Andersen & Kehlet, 2011). Furthermore, mastectomy is known to entail body image distress and appearance concerns among breast cancer patients (Lam et al., 2012). Danish studies found that 43% of IBC patients reported moderate to severe distress at time of diagnosis (Mertz et al., 2011) and that preoperative distress was associated with persistent pain after breast cancer surgery (Mejdahl, Mertz, Bidstrup, & Andersen, 2015). Finally, women with IBC have a long-term increased risk for depression (Suppli et al., 2014).

Most patients have never heard of DCIS (Schwartz, Woloshin, Sox, Fischhoff, & Welch, 2000) and have typically been asymptomatic before attending mammography screening. Women have been reported to find the diagnosis confusing (De, Redman, White, Cakir, & Boyages, 2002), and paradoxically to patients, the treatment is extensive despite good prognosis. Contrary to IBC there has been insufficient attention to the impact of the diagnosis and treatment on women's lives and perception of future cancer risk (Ganz, 2010), and to our knowledge, no studies have been performed on these subjects in a Danish population.

The diagnosis of DCIS and the reasons for extensive treatment can be difficult for patients to understand (Kennedy, Harcourt, & Rumsey, 2008, 2012; Prinjha, Evans, Ziebland, & McPherson, 2011). This may cause inaccurate perception of the future breast cancer risk, anxiety (Partridge et al., 2008), and substantial psychological distress (Ganz, 2010; Lauzier et al., 2010). Additionally, both van Gestel et al. (2007) and Rakovitch et al. (2003) found that DCIS patients had similar psychological distress and the same perception of risks for recurrence and dying of breast cancer as women with an invasive cancer diagnosis. On the other hand, Claus, Petruzella, Carter, & Kasl (2006) found no significant differences in emotional and mental health five years after diagnosis in women treated for DCIS compared to a general healthy female population, except for some adverse effects from radiotherapy. Persistent pain and sensory disturbances have been shown to be a problem for a large proportion of breast cancer patients after treatment (Gartner et al., 2009; Gartner et al., 2010; Mejdahl et al., 2013) but has never been investigated among women with DCIS.

In Denmark, breast cancer patients are referred to community-based physical and psychosocial rehabilitation after diagnosis and treatment, whereas no systematic rehabilitation or psychosocial support is offered women with DCIS. It is our hypothesis that women diagnosed with DCIS have some of the same needs for psychosocial support and physical rehabilitation as patients treated for breast cancer.

Thus, the aim of this exploratory study was to gain knowledge on the level of postoperative pain, sensory disturbances, distress, and anxiety among a small group of Danish women with DCIS, using both quantitative and qualitative methods, in order to serve as a basis and generate hypotheses for future larger studies.

METHODS

In this study, a combination of quantitative and qualitative data has been used aiming at identifying valid themes for further investigation.

Quantitative Data

Quantitative data were retrieved as part of a larger prospective observational cohort study performed to identify predictors of pain and sensory disturbances among women with breast carcinomas. The study was approved by the Danish Data Protection Board and the Bioethics Committee (H-D-2007-0098). All eligible women with newly diagnosed breast cancer were consecutively approached by the project nurse at the department of breast surgery, Rigshospitalet, Denmark (Andersen, Duriaud, Jensen, Kroman, & Kehlet, 2015). Inclusion criteria were women aged $\geq$ 18 years scheduled for breast cancer surgery for stages I and II disease. DCIS patients were included if scheduled for SLNB. Exclusion criteria were previous ipsilateral breast cancer, previous aesthetic surgery to the breast, bilateral cancer, neoadjuvant treatment, pregnancy, diseases in the nervous system, psychiatric disease, unable to understand Danish, or unable to consent to the study.

Patients were approached after surgery was scheduled and were included in the study one to two days before the operation. Eligible patients received oral and written information and an informed consent form. They filled in the first questionnaire before surgery and a follow-up questionnaire after