RESEARCH LETTER

Impact of Ductal Carcinoma In Situ Terminology on Patient Treatment Preferences

Ductal carcinoma in situ (DCIS) is a preinvasive malignancy of the breast and is diagnosed in more than 50,000 women a year in the United States. It is treated with either mastectomy or lumpectomy, often combined with radiation therapy.\(^1\) In cases of low-grade DCIS, studies suggest that if progression occurs, it does so within a time frame of 5 to 40 years\(^2\) and possibly in only 20% of DCIS cases.\(^3\) This raises the possibility that some cases of DCIS will follow an indolent course that will not attain clinical significance during the patient’s lifetime. Accordingly, watchful waiting has been proposed as a reasonable option for DCIS,\(^4\) akin to what is currently offered for patients with early stage prostate cancer; however, how to implement such a strategy is unclear.

Many women are unable to distinguish between preinvasive and invasive cancer and often overestimate the implications of a DCIS diagnosis.\(^5\) These misperceptions may drive patients’ willingness for invasive treatments. Health care providers’ communication with their patients about DCIS plays an important role in patients understanding the risks of their diagnosis. Terms such as carcinoma, stage-0 cancer, and noninvasive cancer are commonly used to describe DCIS and may further contribute to the confusion engendered in many patients.\(^6\) Given the inconsistent terminology used for DCIS, we hypothesized that when DCIS is described without the term cancer, women would be more likely to opt for noninvasive approaches such as medication or watchful waiting in place of surgery.

Methods | To explore this hypothesis, we surveyed 394 healthy women without a history of breast cancer. The women were presented with 3 scenarios that described a diagnosis of DCIS as noninvasive breast cancer, breast lesion, or abnormal cells. Each scenario and the accompanying table of treatment options and outcomes of treatment (chance of developing invasive breast cancer or death) were identical, with the only difference being the term used for DCIS. After each scenario, participants chose among 3 treatment options (surgery, medication, or active surveillance). The order of scenarios was varied randomly across participants, with an equal distribution of each sequence. Each participant viewed the 3 scenarios, made 3 separate choices, and provided reasons for each choice. In the Supplement, eFigure 1 shows an example scenario of a DCIS diagnosis and the table of treatment options that participants viewed. Data were collected on demographics as well as covariates that may affect treatment decisions (eTable 1 in the Supplement).\(^7-9\)

Results | There were significant differences in the distribution of treatment choices among the 3 scenarios (\(P < .001\); Table). Overall, nonsurgical options (medication and active surveillance) were more frequently selected over surgery. When DCIS was described using the term noninvasive cancer, 53% (208 of 394) of participants preferred nonsurgical options, whereas 66% (258 of 394) chose nonsurgical options when the term was breast lesion and 69% (270 of 394) chose nonsurgical options when the term was abnormal cells. Significantly more women changed their preference from a surgical to a nonsurgical option than from a nonsurgical to a surgical option depending on terminology used (\(P < .001\); eTable 2 in the Supplement). Women with a history of (nonbreast) cancer and women with high socioeconomic status more frequently chose surgery in univariate analysis but not in a multivariate model (eTable 3 in the Supplement). High numeracy was the single independent predictor of surgical treatment choice for all 3 terms in the multivariate logistic regression model: cancer (odds ratio [OR], 2.11; 95% CI, 1.34-3.34 [\(P = .001\)]), lesion (OR, 1.96; 95% CI, 1.20-3.19 [\(P = .007\)]), abnormal cells (OR, 1.63; 95% CI, 1.01-2.67 [\(P = .048\)])(eFigure 2 in the Supplement).

Discussion | We found that when DCIS is framed as a high-risk condition rather than as cancer, more than 65% of women opt for nonsurgical treatments. These results suggest that many women may prefer nonsurgical options if allowed to weigh each choice and its attendant risks. Our survey specifically reminded the participants that risks and benefits were the same among all 3 scenarios; however, excluding the word cancer in the diagnosis shifted many participants to choose a less-invasive option.

Table. Distribution of Treatment Preferences Across the 3 Different Terms

<table>
<thead>
<tr>
<th>Treatment Options</th>
<th>Terms Used to Describe Ductal Carcinoma In Situ, No. (%) of Participants</th>
<th>(P) Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cancer</td>
<td>Lesion</td>
</tr>
<tr>
<td>Surgery ((n = 394))</td>
<td>186 (47)*</td>
<td>136 (34)</td>
</tr>
<tr>
<td>Medication ((n = 394))</td>
<td>79 (20)</td>
<td>70 (18)</td>
</tr>
<tr>
<td>Active surveillance ((n = 394))</td>
<td>129 (33)</td>
<td>188 (48)*</td>
</tr>
</tbody>
</table>

* Represent the most popular treatment preference for each term used to describe ductal carcinoma in situ.
There were several limitations of the present study. First, the study cohort was highly educated, numerate, and well insured, with a higher than average income level, thus differing from a population-based cohort of patients with DCIS. Second, we administered hypothetical scenarios to individuals personally not diagnosed as having DCIS. While it is possible that patients with DCIS may react differently to the survey, the use of hypothetical scenarios allowed us to explore women's preferences toward systemic therapy and active surveillance, unbiased by previous knowledge regarding DCIS and standard modes of treatment options. Finally, the projected outcomes in the scenarios were generalized and static, whereas true outcomes vary depending on patient age, tumor grade, and other case-specific factors.

We conclude that the terminology used to describe DCIS has a significant and important impact on patients' perceptions of treatment alternatives. Health care providers who use "cancer" to describe DCIS must be particularly assiduous in ensuring that patients understand the important distinctions between DCIS and invasive cancer.

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Use of Acute Care Services Among Older Homeless Adults

The median age of homeless single adults in the United States has increased from approximately 35 years in 1990 to nearly 50 years in 2010, yet little is known about health care utilization among older homeless adults. Homeless adults 50 years or older have unique medical problems, including high rates of chronic illnesses and geriatric conditions. A better understanding of the health care use by this vulnerable population would help to target strategies to improve their care. Thus, we prospectively observed a cohort of older homeless adults to describe and identify modifiable factors associated with emergency department (ED) visits and hospitalizations during a 1-year period.

Methods | In 2010, we recruited 250 homeless adults from 8 shelters in Boston. Eligibility criteria included age 50 years or older, current homelessness, and ability to communicate in English and provide informed consent. We conducted a baseline in-person assessment, and 12 months later we reviewed medical records at 10 Boston hospitals to determine the cohort’s use of acute care services in the intervening year.

Baseline study variables are detailed elsewhere. Data collected by interview included demographic characteristics, comorbidities, access to health care, alcohol problems (Addiction Severity Index [ASI] score ≥0.17), and drug problems (ASI score ≥0.10). We assessed common geriatric conditions by means of interview and physical examination, including activities of daily living, instrumental activities of daily living, falls during the past year, global cognitive impairment (Mini-Mental State Examination score <24), and executive dysfunction, defined as a Trail Making Test Part B duration more than 1.5 standard deviations above population-based norms or as stopping the test early. We also assessed frailty (Fried criteria); major depression (9-item Patient Health Questionnaire score ≥10); and sensory impairment, defined as self-reported difficulty hearing despite using a hearing aid, self-reported difficulty seeing despite wearing corrective lenses, or best-corrected visual acuity worse than 20/40.

After 12 months, investigators reviewed medical records at the 10 hospitals for each participant by name, date of birth, and social security number. If a matching medical record was