Pitfalls in comparing breast cancer survival of elderly patients between hospitals without comorbidity or cause of death data

Wishart et al. [1] compared the survival of women with breast cancer aged ≥70 at diagnosis between 10 hospitals in East Anglia based on eastern cancer registry data. The overall 5-year survival at our institution was reported as relatively poor at 57% (versus 66% for the best hospital), based on 112 deaths. The 5-year survival at our institution was 73% for those who had surgery and 36% for those who had no surgery. We reviewed these deaths to ascertain the causes for the different survival rates.

We studied the stage of disease and comorbidity at presentation, the initial treatment, reasons if surgery was not offered, cause of death and last known tumour status before death.

Notes on 100 patients were retrievable. Six had to be excluded (four had no invasive breast cancer and two had metastatic disease). In addition, two patients had colonic carcinoma, one had both colonic and gastric carcinoma and one had a previous history of breast carcinoma. We included them in our analysis but these also should have not been included in the original report as their deaths could not be ascribed with certainty to their newly diagnosed breast cancer. The initial treatment was surgery in 21 and primary hormonal therapy (PHT) in 68, mainly due to old age, comorbidity or both. Three had neoadjuvant endocrine therapy followed by surgery. One patient had neo-adjuvant chemotherapy followed by surgery and one had chemo-radiotherapy only for an inflammatory carcinoma. The Charlson comorbidity score [2] for those treated with PHT was 7 with a median expected 10-year survival of 0% (0–21). ER/PR status was unknown in seven patients where the diagnosis was made by fine needle aspiration cytology—however, all these patients received endocrine therapy. Forty patients died in hospital where a cause of death was definitely known and only eight (20%) died of breast cancer. Among those died outside hospital, based on last known tumour status, we estimated that only 28% would have died of breast cancer.

Elderly patients with breast cancer can have significant co-morbidity [3] and this can vary between populations covered by different institutions especially in a geographically large region such as East Anglia. Despite breast cancer surgery being low-risk surgery, these patients are often not fit or not willing to have surgery. These patients often die with their breast cancer rather than from breast cancer. When >70% of deaths are from other causes, relatively small survival differences observed cannot be ascribed to cancer treatment alone. Survival comparison studies without comorbidity and accurate cause of death data are largely meaningless in this age group. In addition, the fact that 10% of patients studied should not have been included in the original report casts doubt on the reliability of cancer registry data.

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references

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