Systematic review of day surgery for breast cancer

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CRD summary
This review studied the benefits and disadvantages of day surgery for breast cancer. The authors concluded that day surgery for breast cancer was safe and well tolerated with high satisfaction rates, but that further research is needed. Given the poor quality primary studies (as acknowledged by the authors) and several methodological flaws, caution is warranted when interpreting the authors’ conclusions.

Authors’ objectives
To establish the benefits and disadvantages of day surgery versus in-patient surgery for breast cancer.

Searching
MEDLINE, EMBASE, PsycINFO, CINAHL, the Cochrane library, and the British Nursing Index were searched from 1966 to September 2008. Search terms were reported. No language restrictions were imposed. Reference lists of relevant articles and reviews were also searched.

Study selection
Randomised controlled trials (RCTs) and observational studies that compared patients with breast cancer undergoing day surgery versus in-patient surgery were eligible for inclusion. Day surgery was defined as surgery that allowed patients to go home later on the same day. Studies had to provide data on discharge outcomes, physical outcomes, psycho-social outcomes or economic outcomes. Reviews, expert opinion papers and discussion articles were excluded.

The included studies were conducted in France, Canada, USA, UK and Italy, and were published between 1993 and 2007. All of the included studies compared day surgery with in-patient surgery in patients undergoing breast cancer surgery (breast-conserving surgery, mastectomy, sentinel node biopsy, axillary clearance). The mean age of patients ranged from 50 to 60 years (range 17 to 90 years) and the duration of study ranged from eight to 108 months.

The authors did not state how many authors undertook the selection process.

Assessment of study quality
Study validity was assessed using a 13-point checklist designed for both randomised and non-randomised studies, which scored quality factors including adequate description of the characteristics of patients, the prospective assessment of outcomes and whether the study was a comparative one. Studies scoring less than 6 out of 13 on the quality assessment checklist were excluded.

Two reviewers independently assessed the validity of the included studies and, if a discrepancy in scoring occurred, consensus was achieved through discussion.

Data extraction
Data were extracted on discharge outcomes (re-admission rates, conversion to in-patient), physical outcomes (pain, wound infection, nausea, vomiting), psychosocial outcomes (quality of life and patient satisfaction), and economic outcomes.

The authors did not state how many reviewers performed the data extraction.

Methods of synthesis
Studies were narratively discussed and grouped according to outcome.

Results of the review
Eleven studies (n=2,092 patients) were included in the review; five were comparative studies and six were case series. The number of women in the studies ranged from 32 to 625. The study quality assessment indicated that all of the included studies were of moderate quality (scoring 6 to 9 out of 13), with most studies providing information on patient characteristics, but few adequately addressing quality of life or follow-up of patients. The figures in the table and text did not always correspond; the figures below are taken from the review text.

**Discharge outcomes**: The rate of discharge after day surgery was high, ranging from 86 to 100% (10 studies). Acute re-admission rates ranged from 0 to 7% with day surgery (eight studies). Re-operation rates ranged from 14 to 40% (three studies).

**Physical outcomes**: Nausea and vomiting incidence ranged from 0.8 to 12.2% (seven studies). Pain was well managed in three studies and accounted for 1 to 2% of re-admissions in two studies with day surgery. Wound infection rates varied from 0 to 16%. When day surgery was compared with in-patient surgery, the wound complication rates were comparable.

**Psycho-social outcomes**: One study that examined quality of life, found that patients treated with day surgery had less psychological distress (p≤0.09) and better levels of emotional adjustment (p≤0.05) than in-patients. Patient satisfaction was generally high with day surgery (seven studies).

**Cost information**
Four studies evaluated costs; day surgery was less costly than in-patient surgery, with savings ranging from 40 to 85%.

**Authors’ conclusions**
Day surgery for breast cancer appeared to be feasible, safe and well tolerated, with high satisfaction rates, but further research is needed.

**CRD commentary**
Inclusion criteria for the review were broadly defined and several relevant sources were searched with no language restrictions. However, the restriction to published literature, so relevant unpublished studies may have been missed; publication bias was considered, but was not formally assessed. It was unclear how many reviewers performed study selection and data extraction, which may have introduced error and bias into the review.

Study quality assessment was undertaken, in duplicate, using a 13-point checklist; the results were reported. Studies were narratively discussed, which was appropriate given the disparate nature of the studies. However, half of the included studies were case series, which are generally considered to be more prone to bias than trials. This, coupled with several methodological flaws which may have introduced bias and error into the review, means that caution is warranted when interpreting the authors’ conclusions, but the authors call for more research appears appropriate.

**Implications of the review for practice and research**
**Practice**: The authors did not state any implications for practice.

**Research**: The authors stated that further research is needed to address the physical and psycho-social outcomes in randomised controlled trials using appropriate validated questionnaires. Further research is also needed to identify whether patients visit their general practitioners for further advice or for treatment (to assess any extra burden on the community after discharge) and to investigate the best methods to prepare patients and families for breast cancer surgery in a day-care setting.

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