Audit

Day-case breast cancer axillary surgery

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Introduction: The standard locoregional management of breast cancer is excision of the primary tumour and axillary staging with suction drainage of the axilla. The objective of this study was to determine the safety, tolerability and efficacy of day-case surgery without suction drainage.

Patients and Methods: A review of complete, prospectively collected data was performed on all breast cancer patients (screening and symptomatic) planned to undergo day-case axillary surgery at a University Teaching Hospital between 2000 and 2002. Postoperative complications were recorded and the notes of patients not discharged on the day of their surgery were also examined to establish the reason for overnight stay.

Results: 165 patients underwent intended day-case axillary surgery (axillary dissection level 1/2; median age, 55 years; range, 39–76 years). Of these, 16 (9.7%) were admitted overnight usually due to over-running of theatre lists ($n = 13$; 81%). 29 patients (17.6%) underwent axillary dissection alone, the remainder had axillary surgery combined with wide local excision (median number of lymph nodes excised 11; range, 2–18). Complications included symptomatic seroma formation in 37 patients (22%) and wound infection in 16 patients (10%).

Conclusions: Day-case axillary surgery can be performed safely with surgical morbidity comparing favourably to published work of 'traditional' axillary drainage following lymphadenectomy.

Key words: Breast cancer – Axillary surgery – day-case

Breast cancer is the commonest malignancy in women¹ with 29,000 new cases per year being diagnosed in England and Wales. The aggressive approach with radical surgery has changed over the years to being more conservative.² Standard treatment for most women, now, is excision of the primary tumour (by wide local excision or mastectomy) with axillary lymphadenectomy. This permits locoregional control, staging and accurate prognostication.³

Suction drainage of the axilla is standard practice to prevent seroma formation⁴ but practice varies about the length of time required for axillary drainage with patients frequently having a hospital stay of 5–8 days.⁵

A recent randomised trial⁶ advocated the suturing of flaps, avoidance of drainage and early discharge with patients having a 3.31 day-stay after undergoing wide local excision and level 2 axillary clearance for breast cancer. This compared to a 4.86 day-stay for patients in the control group who had axillary suction drainage until drain output was less than 50 ml over 24 h ($P < 0.05$).

Day-case axillary lymph node surgery (ALNS) for breast carcinoma has been performed at the University Hospital of North Tees for over 6 years. When patients are seen in the breast clinic, their ability to undergo day-case surgery is assessed by ensuring that there is no significant

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Figure 1 Complications in patients undergoing day-case axillary surgery.

medical co-morbidity, full mobility and the presence of a carer to supervise following discharge. They are reviewed immediately after the breast clinic recommendation for surgery by senior day-case unit nurses for surgical pre-assessment.

Postoperatively, prior to discharge, the ability of patients to perform the activities of daily living, toleration of full diet and adequate pain control with oral analgesia is confirmed.

The objective of this study was to determine the safety, tolerability and efficacy of day-case axillary surgery.

Patients and Methods

A review of complete, prospectively collected data on all screening and symptomatic breast cancer patients intended to undergo day-case axillary surgery at North-Tees Hospital between 2000 and 2002 was performed. Postoperative complications, the need for re-admission, clinically detected seromas requiring aspiration and the number and volume of aspirations were recorded. The notes of patients not discharged on the day of their surgery were also examined to establish the reason for overnight stay.

Results

A total of 165 patients underwent intended day-case surgery between April 2000 and June 2002. Median age was 55 years (range, 39–76 years). Twenty-nine patients underwent level II axillary dissection alone with the remainder having level II axillary dissection ($n = 94$) or axillary sampling ($n = 42$) combined with wide local excision. Level II axillary dissection

Figure 2 Breast cancer management in the University Hospital of North Tees.

being defined as clearance of nodes lateral to and behind pectoralis minor muscle. After meticulous haemostasis, no attempt at closing the dead-space was made, nor were drains used in any patients.

The median number of lymph nodes excised was 11 (range, 2–18). Sixteen were admitted overnight; reasons included nausea ($n = 2$), hypotension ($n = 2$) and haematoma ($n = 1$).

The most common reason for admission was an over-running operating list that resulted in 11 patients requiring admission. Symptomatic seroma formation occurred in 37 patients (22% of total). Eleven patients had the amount of fluid aspirated recorded in the notes (mean, 225 ml; range, 6–420 ml). Only symptomatic seromas were aspirated, accounting for the high mean volume. There was no correlation between number of involved nodes and seroma volume. Seromas were more common in obese patients. Repeat aspirations were required in 8 patients (1 patient four times, 1 patient 3 times and 4 patients once). Sixteen patients (10% of total) had a documented wound infection, defined as clinical signs of infection plus purulent discharge or microbiological evidence of infection. Twenty-four patients (14%) underwent further surgery (mastectomy [$n = 19$] or re-excision of margins [$n = 5$]) as summarised in Figure 1.

No patients were re-admitted acutely following their day-case surgery.

Discussion

Day-case breast cancer surgery can be performed safely allowing a decrease in healthcare costs. A total of 525

Figure 3 Proportion of patients with day-case versus in-patient stay for conservation and ALNS or ALNS alone.

breast cancers were diagnosed at North Tees Hospital during the period 1 January 2000 to 30 June 2002. Mastectomy was performed in 203 cases (39%) and conservation surgery in 277 (53%) as shown in Figure 2. Conservation and ALNS or ALNS alone was performed in 282 patients. Therefore, over half of all ALNS is performed as a day case (53%) and only one-third (32%) required one overnight stay (Fig. 3).

Early discharge may reduce patients' early psychological morbidity by allowing them to convalesce in their home surroundings;⁷ however, further research would be required to confirm this.

This study does not take into account the patients who may have been treated in the community; however, all patients were followed up in the breast clinic for wound inspection 1 week postoperatively and were instructed to contact the breast care nurses if they encountered any problems. Any patient contact with the breast care nurses was recorded in a diary that was cross-referenced with the notes to ensure that any postoperative complications were not missed. It is, therefore, unlikely that there was any increase in community healthcare expenditure.

Surgical morbidity compares favourably to published work of 'traditional' axillary drainage following lymphadenectomy.⁶ Avoidance of drainage in patients undergoing breast conserving surgery with axillary lymphadenectomy resulted in 92% of patients developing ultrasound detected seroma in one study, but only half of these required aspiration.⁸

Previous studies have attempted to reduce seroma formation by early patient discharge with drains *in situ*,^{9,10}

external compression dressings¹¹ or by reduction of axillary 'dead-space' by introducing rows of sutures^{6,12,13} or bovine thrombin spray.¹⁴ This affects shoulder mobility in the short term without influencing the rate of seroma formation.⁶

Conclusions

With careful selection, day-case axillary surgery for breast cancer is possible in most patients with breast cancer.

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