The treatment of breast cancer in one day surgery.
A four year experience

Ann. Ital. Chir., 2013 84: 149-152
pii: S0003469X12018362
www.annitalchir.com

Andrea Tirone*, Manuela Cesaretti***, Giuseppe Vuolo**, Ilaria Gaggelli *, Alfredo Guarnieri*, Alessandro Piccolomini *, Luigi Verre *, Vinno Savelli*, Fabrizio Varrone *, Pasquale D'Onofrio*, Caterina Di Bella*, Antonio Ferdinando Carli *

**U.O.C. Chirurgia 2 AOU Senese (Chair::Prof. A.F. Carli), Siena, Italy*
***UOSA Chirurgia Bariatrica AOU Senese ,Italy*
****General Surgery, " San Martino" Hospital, Genova,Italy*
**UOC Anestesia e Rianimazione AOU Senese*

The treatment of breast cancer in one day surgery. A four year esperience

The number of short-stay surgery procedures has progressively increased since the concept of short-stay surgery was first introduced. Initially this type of surgery was reserved for patients undergoing inguinal hernia repair, proctological surgery, and various minor procedures. Careful patient selection makes it possible to apply one-day surgery to other surgical specialties including breast cancer surgery. Reducing the length of hospital stay lowers health care costs, and shortens waiting lists. The most important benefits for patients are a more rapid return to work and positive psychological effects. Exclusion criteria for one-day surgery are the lack of home care, excessive distance from place of treatment and the presence of any concomitant pathology that is a contraindication to this type of surgery.
We report our experience in oncological surgery of the breast in one-day surgery.

KEY WORDS: Breast cancer surgery; One-day surgery

Introduction

In the treatment of breast cancer in recent years there has been a gradual shift from invasive and frankly mutilating surgery like Halsted's mastectomy and the modification of radical mastectomy proposed by Patey and Madden, to more conservative therapy such as quadrantectomy followed by radiotherapy (RT) [1].
In addition, the introduction of sentinel lymph node biopsy and recostructive surgery techniques have made it possible to achieve better aesthetic results and prevent postoperative complications such as lymphedema [1-4].

The policy of treating breast cancer in one-day surgery, with admission and discharge on the same day as surgery, or at most an overnight stay is not applied uniformly in Europe although it is by no means a new concept [5]. Shortening a patient's hospital stay not only reduces costs but allows the patient to recover in familiar home surroundings which can hasten recovery, resulting in a more rapid return to work and psychological benefits.
The aim of our study was to assess the feasibility and benefits of short-stay surgery for breast cancer patients.

Materials and methods

From December 2007 ,when the University Hospital of Siena first set up short-stay surgery to September 2011, the General Surgery II unit of the Hospital of Siena treated 100 patients (median age 62 years, range:35-101 years) with malignant breast lesions: 95 of which were primary carcinomas in various stages of disease (from T1b, N0, Mx to T4, N3, Mx): 90 ductal carcinomas

Pervenuto in Redazione Ottobre 2011. Accettato per la pubblicazione Dicembre 2011.
Per la corrispondenza: Andrea Tirone, Policlinico Le Scotte, UOC Chirurgia 2, Viale Bracci, 53100 Siena, Italy (e-mail: andrea.tirone@alice.it)

(94.7%), 5 lobular carcinomas (5.2%), 3 recurrences in patients who had previously undergone quadrantectomy, one metastatic choroidal melanoma and one case of Pagets disease.
The stage of disease was the basis for surgical planning. Treatment of the 95 patients with primary tumors consisted of 12 radical mastectomies (Madden), 1 modified radical mastectomy with preservation of the nipple and areola, and 82 quadrantectomies (in 78 cases with axillarydissection). Treatment of the 3 patients with recurrence consisted of 3 total mastectomies. The patient with metastatic melanoma underwent wide local excision. The patient with Paget's disease was treated with radical mastectomy. In 16 of the patients who underwent quadrantectomy, sentinel lymph node biopsy was performed using a Scinti-Probe MR 100 to identify the sentinel node labelled with technetium- 99m which had been injected at least 6 hours before surgery. Fifty percent of cases were positive. In these cases we proceeded to axillary dissection. In one of the negative cases, 2 lymph nodes were enlarged and hard in consistency.Given the young age of the patient (35 years) we performed lymphadenectomy; Histology confirmed neoplastic infiltration. Oncological radicality of the axillary dissection permitting we always prefer to spare the intercostobrachial nerves which are important for preserving the sensitivity of the medial part of the arm thereby allowing earlier and better rehabilitation.
We usually leave a drain in the axilla, with a bag attached to the chest wall, for 7 days, and recommend oral antibiotic coverage at home until the drain is removed.
At discharge, patients are properly informed about the function and management of the drain.They are seen by a physiotherapist who teaches them rehabilitation exercises. They are given appointments for wound care follow-up visits.

Results

In our experience no patient refused discharge after surgery and there were no cases of rehospitalization.
We observed significant surgical complications in only 9 patients (9%): 5 cases of wound suppuration, treated with antibiotics at home, (one in a schizophrenic patient who pulled out her drain after her mastectomy), 3 cases of hematoma which resolved spontaneously which resolved spontaneously within one month , and one case of cellulitis resolved in one month. Non-surgical complications included side effects of anesthesia:episodes of nausea in 10 cases and 5 cases of vomiting treated with conventional antiemetic therapy.
The median duration of lymphorrhea in patients undergoing axillary lymphadenectomy was 10 days (range 4-16 days).Drain removal on postoperative day 7 was followed by aspiration performed once or twice on average to reduce the risk of an infected hematoma.
The tumors had an average diameter of 1.5 cm (range 0.7-3 cm.)
In cases where we performed axillary dissection the average number of nodes harvested was18 (range 4 -35) and the average number of positive nodes was 4 (range 0 - 35).

Discussion

The key features of one-day surgery are lower costs than in conventional inpatient surgery (while maintaining therapeutic efficacy in cases of oncological surgery), and a complication rate equal to that recorded for conventional longer stay surgery. Equally important is the high level of patient satisfaction associated with this type of surgery It is essential to keep complications in one-day surgery to a minimum since they can be a cause of rehospitalisation. There are two kinds of potential complications: surgical complications such as postoperative bleeding, phlebitis, seromas, hematomas, skin infections and non-surgical complications such as nausea and vomiting due to anesthesia. [6]
A careful analysis of the literature, and in particular the Anglo-Saxon literature which contains the most studies on short stay surgery showed that there were no exclusion criteria for the treatment of breast cancer patients in one-day surgery.
In our experience residence at a reasonable distance from the health facility, is not more than an hour's drive away was a criterion for inclusion in the program. Patients who do not live very close by should stay near the hospital in the days following surgery, or have a family member or other caregiver at home. Some of our breast cancer patients to whom we suggested one-day surgery rejected this therapeutic approach, although they resided in the region, for fear of not having adequate care after returning home. Age was not an exclusion criterion.We did not recommend short stay surgery to patients on anticoagulant/ antiplatelet therapy because of possible complications [7].
Patients were admitted on the day of their operation. Before admission they had undergone blood tests (including a coagulation profile), a chest x-ray, and evaluation by an anesthesiologist. Whether a patient was discharged on the day of surgery or the next morning was decided jointly by the surgeon and anesthesiologist, based on the amount and type of anesthesia administered, and the type of operation performed. Because of this treatment protocol early discharge is more acceptable to patients.
The type of anesthesia used depends not so much on tumor size as on tumor location and whether axillary dissection is required [8,9]. Indications for local anesthesia range from exeresis of rather large mammary nodules to lumpectomy or mastectomy, provided it is accompanied by axillary dissection [10]. The limiting factor is the dose of local anesthetic which should not exceed 7 mg / kg lidocaine, 3 mg / kg bupivacaine. This problem is solved

by using chlorinated solutions to make large volumes of dilute lidocaine/bupivacaine which maintain the effectiveness of the anesthetic. Intraoperative sedation may be useful for increasing patient comfort and reducing the toxicity of local anesthetic agents. In cases of deep-seated tumors tagged with metal markers, local anesthesia has limitations because infiltration can displace the markers. (Before reconstruction of the residual parenchyma it is essential that radiography of the specimen has confirmed successful excision of all markers). General anesthesia is required in all cases of axillary dissection and is not considered a limiting factor in one-day surgery provided that the operation is performed in the early hours of the morning [11]. Operations performed as one day surgery procedures are intended to ensure rapid functional recovery.This is in great part due to appropriate administration of anesthetics and postoperative analgesia.. The latter can be achieved by wound infiltration with a long-acting local anesthetic at the end of the operation and oral administration of tramadol and ketoralac repeated every 8 hours during the first 24 hours. In our experience this treatment plan is an essential prerequisite to discharge within 24 hours after surgery.
The patients are medicated before discharge and on follow-up visits to the clinic drainage is monitored and wound dressings are changed.

Conclusions

We believe that breast cancer operations can be performed as one day surgery with results similar to those of traditional surgery and the following significant advantages. One-day surgery fits perfectly with the concept of progressively less aggressive surgery, improvements in anesthesia make it safe, it meets the needs of the patients who demand a short hospital stay ,and a rapid return to their daily activities and it has positive psychological effects which help them to cope with their disease.
One-day surgery also satisfies the interest of hospital management in shorter stays for inpatients, and a steady reduction the number of beds [12]. Outpatient clinics are perfectly capable of providing adequate postoperative care, especially in healthcare organizations where there is specialized staff (at a local level) which could develop into a regional network of home care that might make us reconsider patient selection criteria.

Riassunto

Con l'introduzione della chirurgia a ricovero breve si è assistito ad un progressivo aumento di interventi chirurgici praticati in questo regime. Inizialmente questo tipo di chirurgia è stata riservata esclusivamente alla chirurgia dell'ernia inguinale, alla chirurgia proctologica ed ai piccoli interventi. Con una attenta selezione dei pazienti si è potuto incrementare questo tipo di chirurgia permettendo così di poter trattare in ricovero di one day surgery anche la patologia oncologica della mammella. In questo modo si può ottenere una riduzione dell'ospedalizzazione con conseguente abbattimento della spesa sanitaria, riduzione delle liste di attesa, ma cosa sicuramente più importante per le pazienti, una più rapida ripresa dell'attività lavorativa e sociale con miglior ripercussioni dal punto di vista psicologico.
Criteri di esclusione per questo tipo di chirurgia sono la mancanza di assistenza domiciliare, la distanza dal luogo di cura e la presenza di patologia associate tali da controindicare la chirurgia in one day surgery.
Riportiamo la nostra esperienza sulla chirurgia oncologica della mammella in one-day surgery.

References

1. Veronesi U: *Conservative treatment of breast cancer: A trial in progress at the cancer Institute of Milan*. World J Surg, 1977; 1(3): 324-26.

2. Veronesi U, Cascinelli N, Mariani L, Greco M, Saccozzi R, Luini A, Aguilar M, Marubini E: *Twenty-year follow-up of a randomized study comparing breast-conserving surgery with radical mastectomy for early breast cancer*. N Engl J Med, 2002; 347(16):1227-232.

3. Veronesi U, Volterrani F, Luini A, Saccozzi R, Del Vecchio M, Zucali R, Galimberti V, Rasponi A, Di Re E, Squicciarini P, et al.: *Quadrantectomy versus lumpectomy for small size breast cancer*. Eur J Cancer, 1990; 26(6):671-73.

4. Iannace C, Di Libero L, Lepore M, De Stefano N, Buono M, Sciascia V, Manetta F, Giordano M, Scetta G, Varriale R, Esposito D, Tartaglia E, Ferbo U, Miletto P, Caracciolo F: *Prognostic and curative value of sentinel node in breast cancer. A 377 patients experience.* Review. Ann Ital Chir, 2010; 81(2):103-11; discussion 112-13.

5. de Kok M, Dirksen CD, Kessels AG, van der Weijden T, van de Velde CJ, Roukema JA, Bell AV, van der Ent FW, von Meyenfeldt MF: *Cost-effectiveness of a short stay admission programme for breast cancer surgery*. Acta Oncol, 2010; 49(3):338-46.

6. Friedman D, Gianetta E, Giaminardi E, Aicardi M, Bachi V: *Definitive breast cancer surgery as an outpatient:rationale and our experience*. Ann Ital Chir, 2004; 75(5):525-28; discussion 529.

7. Dooley MD WC: *Ambulatory breast cancer surgery*. Ann Surgical Oncology, 2000: 7(3):174-75.

8. Barillari P, Leuzzi R, Barissi-Gharb A, D'Angelo F, Aurello F: *Ambulatorial surgical treatment for breast carcinoma.* Min Chir, 2001; 56(1):55-59.

9. Minerva Buonuomo O, Granai AV, Felici A, et al.: *Day-surgical management of ductal carcinoma in situ (DCIS) of the breast using wide local excision with sentinel node biopsy*. Tumori, 2002; 88(3):S48-49.

10. Carli A, A. Neri, A. Guarnieri: *Chirurgia della mammella in day surgery*. Inserto 3-Montecatini Terme 31 gennaio 1998 (23-25).

11. Iovino F, Ruggiero R, Rivetti SP, Russo A, Siani C, Lo Schiavo F: *Surgical treatment in day surgery of uncertain breast lesions*, Minerva Chir, 2004; 59(3):289-93.

12. Ranieri E, Caprio E, Fobert MT, Civitelli L, Ceccarelli F, Barberi S, Virno F: *One-day surgery in a series of 150 breast cancer patients: Efficacy and cost-benefit analysis*. Chir Ital, 2004; 56(3):415-18.