

THE IMPORTANCE OF RECONSTRUCTIVE SURGERY IN PATIENTS DIAGNOSED WITH BREAST CANCER

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Summary

Breast cancer is the most common cancer in women in Croatia. Thanks to modern diagnostics and national program of early detection of breast cancer, tumors today are diagnosed in earlier stage, which has favorable effect on the prognosis of disease, but also on the possibilities of surgical treatment. Surgical treatment of breast cancer is progressing rapidly, from breast conserving surgical procedures to skin sparing mastectomies and primary reconstruction of removed breast which became the standard of modern surgical treatment. Apart from the primary reconstruction, patients are offered the opportunity of secondary reconstruction. In patients with early breast cancer (T1 and T2 stage), skin sparing mastectomy followed with breast reconstruction is a safe method from oncologic viewpoint and from the aspect of patient, it reduces psychological trauma that is associated with removal of the entire breast (feeling of mutilation, depression, decreased sexuality). This method also gives plastic surgeons ability to achieve excellent aesthetic appearance of new breast.

KEYWORDS: *breast cancer, breast reconstruction, skin sparing mastectomies, psychological health, sexuality*

VAŽNOST REKONSTRUKCIJSKE KIRURGIJE KOD BOLESNICA S RAKOM DOJKE

Sažetak

Rak dojke najčešći je rak u žena u Hrvatskoj. Zahvaljujući suvremenoj dijagnostici i nacionalnom probiru u mogućnosti smo otkrivati rak dojke u ranijoj fazi. Važnost rane dijagnostike povoljno utječe ne samo na prognozu bolesti, već i na mogućnost odabira optimalnog kirurškog zahvata s kojim i počinje liječenje u žena s rakom dojke. Od kirurških zahvata u obzir dolaze pošteđni zahvati na dojci, od mastektomije s poštedom kože i primarnom rekonstrukcijom do sekundarnih rekonstrukcija. U svih bolesnica s T1 i T2 tumorom, mastektomija s poštedom kože i primarnom rekonstrukcijom kirurški je postupak koji nudi jednaku onkološku sigurnost kao i standardna mastektomija, a nakon primarne rekonstrukcije u bolesnica se umanjuje psihološka trauma, koje tim zahvatom ne gube osjećaj ženstvenosti. Ženama se također vraća povjerenje u vlastito tijelo, a samim time i odnos prema partneru te drugima u zajednici.

KLJUČNE RIJEČI: *rak dojke, rekonstrukcijska kirurgija dojke, mastektomija s poštedom kože, psihološka trauma, seksualnost*

Breast cancer is the most common form of cancer in women (1). Every year in Croatia, more than 2 300 women are diagnosed with breast cancer, participating with more than 23% of all cancers diagnosed among women (2).

The possibility of providing adequate oncologic safety while minimizing the morbidity of mastectomy started to be systematically studied

over 30 years ago with the National Surgical Adjuvant Breast and Bowel Project B-06 trial comparing lumpectomy with or without radiation therapy to mastectomy in women with invasive breast cancer. Results after 20 years of follow-up (3) and results from a similar large Italian trial by Veronesi et al. (4) showed no significant differences among groups for disease-free survival, distant

disease-free survival, or overall survival, although improved local control was seen with the addition of radiation therapy in the lumpectomy arms. Mastectomy is reserved for women with multicentric breast cancer, a history of ipsilateral breast cancer treated with a partial mastectomy and radiation therapy, or a history of chest wall radiation therapy; and for women diagnosed in early stage pregnancy who wish to continue the pregnancy (5).

For patients undergoing mastectomy, advances that optimize esthetic outcome for women undergoing breast reconstruction have been made, including the now widely used technique of skin-sparing mastectomy. The popularity of skin-sparing mastectomy (SSM) has risen over the last decade. The first description of the procedure was by Freeman in 1962. Toth and Lappert modified the Freeman's procedure some 30 years later, which coincided with the rising popularity of immediate breast reconstruction and heralded the more widespread use of SSM in clinical practice (6, 7). Since that time, skin-sparing mastectomy has become the standard in mastectomy procedures for women desiring immediate reconstruction because of its significant improvement in cosmetic outcome when compared with non-skin-sparing mastectomy. Advantages of skin-sparing mastectomy versus traditional skin resection include better breast symmetry after reconstruction resulting from preservation of a breast skin envelope well suited for implants or autologous tissue remaining after skin-sparing mastectomy. SSM is a surgical technique used to remove breast glandular tissue through an incision around the areola with skin preservation. From an oncological point of view, SSM is a completely safe surgical technique that does not increase the risk of local recurrence in early stage cancers, multicentric tumors and ductal carcinoma in situ. Pre- and postsurgical irradiation will not be a contraindication for the procedure. In a prophylactic mastectomy setting, SSM is an ideal surgical choice. In selected cases when the mammary base is not tumor-positive, the procedure can be performed and the nipple-areola complex preserved. A SSM contraindication is an inflammatory breast tumor involving the skin of the breast. In patients with early breast cancer, SSM is a safe surgical treatment allowing plastic surgeons to achieve quality

reconstruction with an excellent cosmetic outcome (8-10).

Breast reconstruction after mastectomy has evolved over the last century to be an integral component of therapy for patients with breast cancer. Breast reconstruction was originally designed to reduce postmastectomy complications and correct chest wall deformity, but its value has been recognized to extend past this limited view of use. The goals for patients undergoing reconstruction are to correct the anatomic defect and restore breast form and symmetry. Breast reconstruction has become one of the most rewarding surgical procedures available today. New surgical techniques allow surgeons to reconstruct a breast that come close in its appearance and volume to matching a natural breast. Breast reconstruction can be done at the same time as mastectomy (the so-called primary, or immediate reconstruction), which is also highly recommended as it helps avoid negative psychological consequences of mastectomy, or at any time after mastectomy (the so-called secondary, or delayed reconstruction). Surgical options for breast reconstruction involve the use of endoprosthesis (implants), autogenous tissue transfers, or a combination of both. A reduction mammoplasty of the opposite breast can help achieve symmetry in women who decide to have breast reconstruction.

Although the use of autologous tissue for breast reconstruction has been widespread for decades, recent interest has focused on the use of perforator flaps, particularly the DIEP flap, as a way of minimizing the donor-site morbidity seen with other autologous options. The flap developed is composed of abdominal skin and subcutaneous fat, with preservation of the anterior rectus sheath and rectus abdominis. As the flap has been used more widely, several advantages of the DIEP flap have been shown when compared with conventional TRAM flaps (11). Limitations and challenges of the procedure include required microsurgical expertise, longer operating time, and the need for intensive postoperative flap monitoring. It should also be noted that if serious flap complications arise with DIEP flap reconstruction and the flap is lost, an additional major operation will be required for alternative reconstruction. One of the most often procedures performed with autologous reconstruction is the use of latissimus dorsi mus-

cle as a tissue flap procedure that uses muscle and skin from the upper back to create a new breast mound after a mastectomy. An ellipse of skin and latissimus dorsi muscle will be tunneled to mastectomy area to create a reconstructed breast. The operating time with this procedure is much shorter with less complications. Even with the multiple autogenous options, tissue expansion and subsequent implant placement continues to be the most commonly performed breast reconstruction procedure. Using reconstruction by a silicone implant after mastectomy, the surgeon inserts a balloon-like expander beneath the chest muscle. Periodically, over several weeks or months, through a tiny valve-like mechanism buried beneath the skin, a saline solution is injected to slowly fill the expander. When the skin over the expander has stretched enough, in a second operation the expander will be replaced with a new implant. It should be pointed out that some expanders are designed to be left in place permanently. Some women do not require placement of an expander to stretch their skin, so the surgeon can immediately put in the implant (12,13).

During the past 25 years, the psychological adaptation of women undergoing mastectomy as a treatment for breast cancer has been extensively studied (14). Early reports described a wide range of lasting psychological disturbances, including disruption of body image, severe depression, and feelings of diminished self-worth (15). More recently, numerous studies more completely defined the psychosocial sequelae of mastectomy across several psychological parameters, including loss of femininity, mood disturbances, and interpersonal, sexual, and marital dysfunction (16,17). It has been suggested that breast reconstruction may constitute a “reverse mastectomy”, offering the most effective means for restoring psychological well-being after a mastectomy (18). In the past decade, changing attitudes toward breast reconstruction among both patients and providers have led a growing number of women to seek breast reconstruction after a mastectomy for cancer. As a result, the psychological adjustment of women who choose to undergo post-mastectomy breast reconstruction has been the focus of considerable research. A number of studies have documented the psychological, social, emotional, and functional benefits of breast reconstruction, including improved psychological

health, self-esteem, sexuality and body image, and reduced concerns of cancer recurrence (19).

CONCLUSION

Innovation and refinement of breast reconstructive options continue to expand following the advances in surgical and radiation therapy for the care of the breast cancer patient. Although maximizing oncologic outcome should remain the driving force behind the recent developments in the management of breast cancer, continued attention to esthetic outcome and patient satisfaction with the results are also essential.

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