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Conservative surgery of the breast: Ten years of experience at the University Hospital for Tumours, Zagreb, Croatia

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In this presentation we tried to show the evolution of breast conserving surgery in our Department. The first breast conserving operations were done in 1982. In 1986 the number of patients undergoing these procedures started to increase. The break point was the year 1993 when we started our breast cancer screening program, and since then the number has been increasing rapidly.

Key words: breast neoplasms; mastectomy-methods; treatment outcome

Introduction

This survey of ten-year experience is aimed at pointing out the number of changes that breast cancer surgery has undergone and is still going through. Over 35% of all breast carcinomas registered in Croatia are treated at the University Hospital for Tumors in Zagreb. The first conservative surgical procedure for breast cancer was performed in 1981, and up to 1987, a modest number of segmentectomies was registered at our Hospital, starting to increase thereafter. An actual increase was achieved only by 1993.

Patients and methods

In the period between 1986 to March 1997, 7875 patients underwent surgery for breast tumors, of which 4627 were diagnosed as carcinoma of the breast. Other types of breast surgery were applied for various breast diseases (Figure 1). From the total number of breast carcinoma registered in that period, there were 4133 modified radical mastectomies and 494 segmentectomies including dissection of the axilla. Conservative surgery for breast cancer accounted for 10% (Figure 2).

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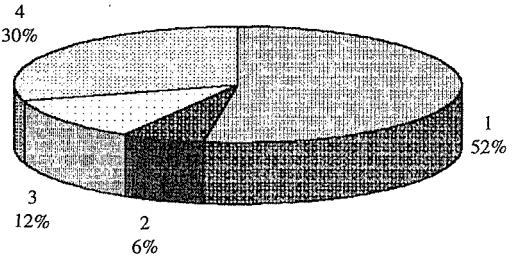

Figure 1. Breast surgery in total performed from 1986 to March 1997 (total 7805). 1. MRM; 2. segmant.; 3. fibroaden.; 4. negative biop.

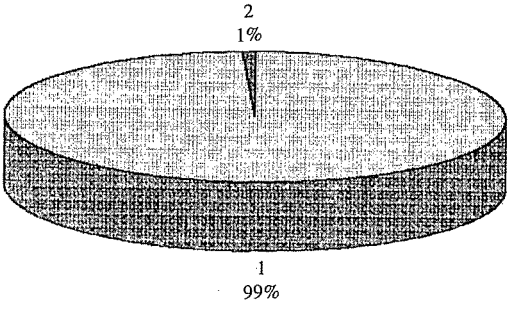

Figure 2. MRM and segmentectomies ratio in 1986. 1. MRM; 2. segment.

Following the protocol of the University Hospital for Tumors in Zagreb, all patients were submitted to postoperative irradiation and, if necessary, adjuvant chemotherapy or hormone therapy, which depended on the axillary status.[1-4]

There are several reasons for the small number of conservative operations performed at our Hospital.

Although some authors allow for up to 70% of negative breast tumor biopsies, we are of the opinion that the indications should be reexamined and reviewed in the case when negative biopsies exceed 30%.

Our criteria for conservative surgery, which some still consider rather rigorous, are based upon experience gained with numerous breast cancer patients and the results achieved. As regards the above, conservative surgery in breast cancer patients often happens to be the method of choice. At our Hospital, the indications for breast cancer conservative surgery are as follows:[5]

1. cancer size less than 3(4) cm;
2. no multicentricity on mammography or / and ultrasound examination;
3. clinically negative axilla;
4. adequate volume of the breast which allows uniform dosage of irradiation;
5. patient's decision.

In 1993, the University Hospital for Tumors along with the Croatian League against Cancer outlined a program for early detection of breast cancer, and some results have already been obtained. It is considered that the number of patients with smaller breast tumors has increased and that there is a growing number of breast cancer patients detected by screening.

The comparison of the numbers of patients operated on in 1986 with that in 1993, and after the introduction of the screening program in the same year, reveals three key turning points and some changes that have occurred since.[6] Until 1986, only twelve conservative operations had been performed in total. By 1993, the number reached the modest 33, accounting for 8% of all surgically treated carcinomas. After 1993, it started to increase significantly, and in 1996, the number of conservative operations accounted for 24% of all surgically treated breast carcinomas. In the first three months of 1997, 35/114 patients were submitted to conservative surgery (Figures 2, 3, 4, 5).

Conclusion

In conclusion, there is an explanation for such a relatively small number of conservative surgeries for breast carcinoma performed at our Hospital. First, all screening that was carried out before 1993 lacked planning. After the program for early detection was launched, the statistical records have greatly improved, but that does not necessarily mean that we consider the present numbers satisfactory. Being aware that further imporvement can only be achieved by as early as possible diagnosis of breast cancer, and by public education, we do hope that the total number of breast conservative surgeries will account for approx. 40% by the end of 1997.

The increased rate of conservative surgery registered at our Hospital could be considered satisfactory in the last four years alone (Figure 6).

As regards the screening program and its effects on the population, the response is huge. With quality and prompt outpatient treatment (surgical examination, mammography, US and cytological test) we are able to ensure the expeditious flow of patients that further results in a rather large number of patients operated on at our Hospital. In the end, the number of negative biopsies should also be taken into consideration. Our attempt to improve early diagnosis has resulted in a somewhat larger number of negative breast tumor biopsies that could also be justified by a wider indication field involved (Figure 6).

Table 1. Types of surgery performed at different periods

	Carcinoma			
year	radical	segment.	fibroaden.	other
1986	273	2	38	113
1987	322	15	51	128
1988	344	13	99	203
1989	376	18	82	250
1990	352	39	105	172
1991	317	41	73	145
1992	413	33	46	243
1993	407	33	92	281
1994	412	64	106	290
1995	411	76	90	241
1996	347	100	120	192
1997	114	35	27	61
	4088	469	929	2319
		4557	929	2319
			5486	2319
				7805

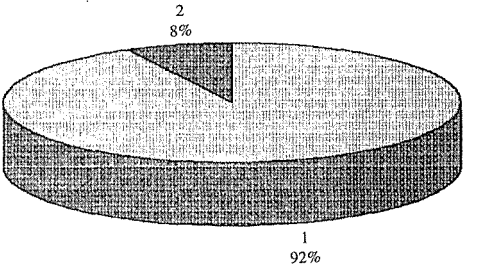

Figure 3. MRM and segmentectomies ratio in 1993. 1. MRM; 2. segment.

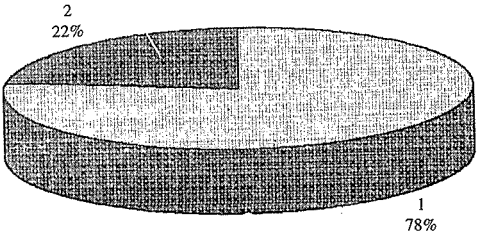

Figure 4. MRM and segmentectomies ratio in 1996. 1. MRM; 2. segment.

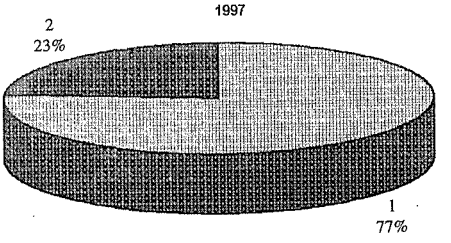

Figure 5. MRM and segmentectomies ratio in the first three months of 1997. 1. MRM; 2. segment.

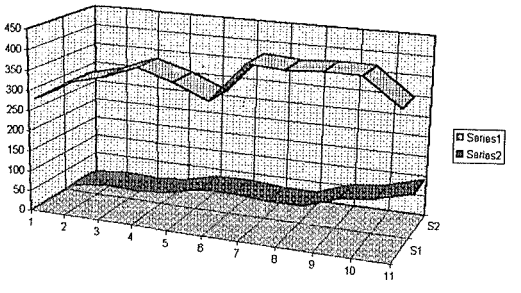

Figure 6. MRM and segmentectomies ratio from 1986 to 1997. 1. MRM; 2. segment.

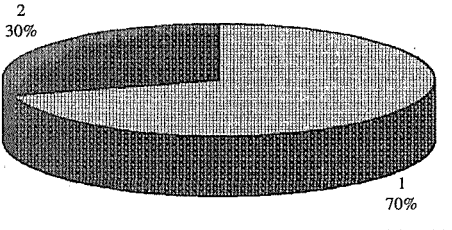

Figure 7. The ratio of negative biopsies. 1. positive biop.; 2. negative biop.

References

1. Fisher B, Wolmark N, Redmond C et al. Findings from NSABP protocol No.B-04: comparison of radical mastectomy with alternative treatments. II: the clinical and biologic significance of medial-central breast cancers. *Cancer* 1981; **48:** 1863-72.

2. Veronesi U. Quadrantectomy. In: Bland KI, Copeland EM III, eds. *The breast: comprehensive managment of benign and malignant diseases.* Philadelphia: Saunders, 1991: 631.

3. Veronesi U, del Vecchio M, Greco M et al. Results of quadrantectomy, axillary dissections, and radiotherapy (QUART) in T1N0 patients. In: Harris JR, Hellman S, Silen W, eds. *Conservative managment of breast cancer: new surgical and radiotherapeutic techniques.* Philadelphia: Lippincott, 1983.

4. Veronesi U, Sacozzi R, del Vecchio M et al. Comparing radical mastectomy with quadrantectomy,axillary dissection, and radiotherapy in patients with small cancers of the breast. *N Engl J Med* 1981; **305:** 5.

5. Orešić V, Nola P, Petrinec Z et al. Kirurško liječenje raka dojke. In: Turić M, Kolarić K, Eljuga D, eds. *Klinička onkologija: rak dojke.* Zagreb: Globus, 1996: 590.

6. Vrdoljak M, Orešić V, Vrdoljak VD et al. Early detection of breast cancer-screening programme of the University Hospital for Tumors, Zagreb-Croatia. *Libri Oncol* 1995; **24:** 165.