

MINIMALLY INVASIVE DUCTAL CARCINOMA OF THE BREAST – A CASE REPORT

ANDREJ ROTH, IVAN MILAS, FABIJAN KNEŽEVIĆ, MLADEN STANEC, DANKO VELIMIR
VRDOLJAK, VESNA RAMLJAK, MIROSLAV LESAR, TOMISLAV OREŠIĆ and STJEPAN JUZBAŠIĆ

Department of Surgical Oncology, University Hospital for Tumors, Zagreb, Croatia

Summary

A forty-three-year-old patient was admitted for occasional blood-tinged discharge from the right breast. Clinical testings confirmed a justified suspicion of a malignant process in the right breast. Galactoforectomy was performed, and the pathohistological analysis of the material thus obtained confirmed the diagnosis of invasive ductal carcinoma of the breast. The mentioned tumor lesion, measured using an ocular micrometer, was 1.5 mm in diameter, and beside it intraductal carcinomas *in situ* were also found. Following such a histologic finding, the surgical treatment was extended to include quadrantectomy. Pathohistologic serial sections of the removed extra portion of the breast showed no evidence of residual tumor. Adjuvant radiotherapy plus hormonal therapy are recommended to additionally improve an already good prognosis of the disease.

KEY WORDS: *minimally invasive ductal carcinoma of the breast, intraductal carcinoma in situ*

PRIKAZ BOLESNICE S MINIMALNO INVAZIVNIM DUKTALNIM RAKOM DOJKE

Sažetak

Četrdesettrogodišnja bolesnica primljena je u Kliniku zbog povremenog sukrvavog iscjetka iz desne dojke. Nakon provedene kliničke obrade zaključilo se da postoji opravdana sumnja na maligni proces u desnoj dojci. Učinjena je galaktoforektomija, a patohistološkom obradom dobivenog materijala dokazano je da se radi o duktalnom invazivnom karcinomu dojke. Spomenuta tumorska promjena izmjerena okularnim mikrometrom, imala je promjer 1,5 mm, a uz nju našu se i intraduktalni karcinomi *in situ*. Nakon takvog histološkog nalaza kirurški zahvat se proširi kvadrantektomijom. Serijskim patohistološkim rezovima dodatno uklonjenog dijela dojke više se ne nađe tumorskog tkiva. Preporučeno je dodatno liječenje zračenjem i hormonskom terapijom, što će dodatno poboljšati povoljnu prognozu bolesti.

KLJUČNE RIJEČI: *minimalno invazivni duktalni karcinom dojke, intraduktalni karcinom in situ*

INTRODUCTION

With more than a hundred patients per 100,000 women, breast cancer is the most frequent female malignancy in Croatia. A similar epidemiologic situation occurs also in other European regions. Despite the fact that actions for early detection of breast cancer are becoming much better organized, at the time of diagnosis, more than a half of the patients already present with lymph node involvement. As often as not,

the disease is detected in its locally advanced stage, and even with distant metastases being present. Breast cancer early detection programs definitely contribute to the detection of the disease at its early stages, and thus a significantly better prognosis. However, the number of tumors detected with less than 5 mm in diameter (T1a) remains small (1). For instance, over a nine-year period (1990–1998), 4,271 patients in total underwent surgery for breast cancer at the University Hospital for Tumors in Zagreb,

Croatia. Among them, only 25 patients (0.59%) had the tumor less than 5 mm in diameter, also including microinvasive carcinoma of the breast (T1mic) (2,3).

For that very reason, we decided to report a case of a forty-three-year-old patient with minimally invasive breast carcinoma of 1.5 mm in diameter.

CASE REPORT

The patient, Mrs Lj. T., born in 1961, was admitted for a blood-tinged discharge from the right breast at the Dept. of Surgical Oncology, University Hospital for Tumors, Zagreb, Croatia on October 7, 2003.

Anamnesic data: the patient's two uncles suffered from malignancy; one from thyroid, and another from colon cancer.

The patient underwent colecystectomy at the age of 21. At 37 (in 1998), she underwent surgery for prolactinoma at the «Sestre milosrdnice» University Hospital, Zagreb, Croatia. The patient developed diabetes insipidus and hypothyreosis as a recognized consequence of surgery. The patient takes levothyroxin, desmopressin, atenelol and, occasionally, diazepam. The patient is allergic to penicillin.

A year ago, a blood-tinged discharge from the right mamma occurred, being more excessive at the middle of her cycle and the beginning of menstrual bleeding. The patient presented to our institution for examination. Patient's general physical health status at presentation was normal.

Palpatory finding of both breasts: grainy parenchyma, no pathologic formations, free axillas. By pressure on the right mamma, a blood-tinged discharge was provoked.

During clinical examination, laboratory test results were determined to fall within normal ranges (complete blood count, biochemical findings, thyroid hormones level, CA 15-3 and urine). X-ray of the heart and lungs showed normal structures. Mammographic screening of the right breast showed, in the retromammillary region, a pale, oval opacity of soft-tissue density, 20x30 mm in diameter, with unsharply delineated margins. The described change primarily suggested

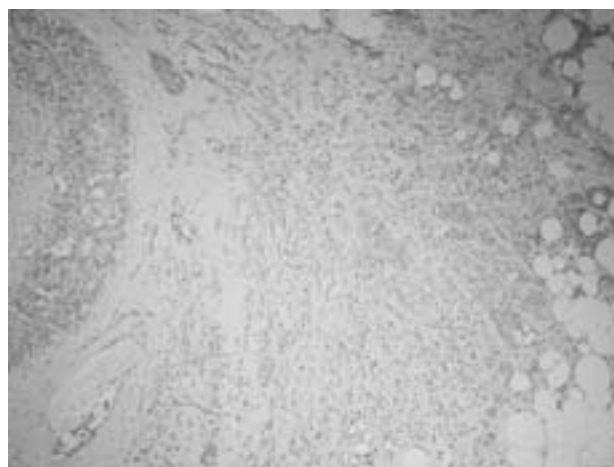


Figure 1. Minimally invasive carcinoma (right) and a comedo-type focus (left). HE 30 x

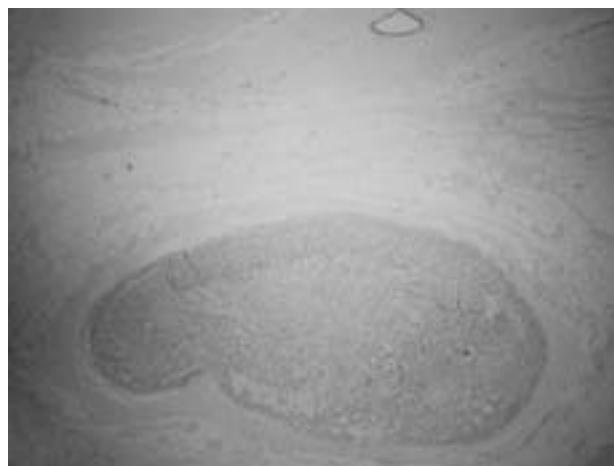


Figure 2. A focus of intraductal carcinoma in situ. HE 40 x

dilated galactiform ducts, not excluding the possibility of expansive tumor growth. Mammographic results of the left breast were normal.

The consultation concluded that galactoforectomy should be performed and it was done on 10/13/2003. The pathohistologic description reported on a portion of parenchyma measuring 8 x 7 x 2 cm in size. Histologic evaluation showed in one place several dilated, centrally necrotic ducts filled with atypical epithelial cells. In the surrounding tissue, several smaller ducts were found to be completely filled with atypical epithelial cells not protruding into the basement membrane. One side of the described region comprised an area composed of cords and clus-

ters and sparse tubules of atypical epithelial cells in desmoplastic connective tissue stroma. Tumor cells showed moderate polymorphism and hyperchromasia, and >10 abnormal mitoses per 10 HPV. The described focus of invasive ductal carcinoma measured using an ocular micrometer was 1.5 mm in diameter. Other preparations revealed in several places a pattern of intraductal carcinoma *in situ* without protrusion of the basement membrane (Figures 1 and 2). The block containing intraductal carcinoma was immunohistochemically stained for estrogen and progesterone receptors and Hercept testing. However, the obtained sections did not reveal any invasive carcinoma except for the pattern of carcinoma *in situ* that did not allow for interpretation of the estrogen and progesterone receptor content and the Hercept test.

Following the pathohistologic finding, quadrantectomy of the right breast with axillary evacuation was performed. The removed material did not reveal any residual tumor.

From the dissectate of the right axilla, 22 lymph nodes of 5 to 15 mm were isolated. Histologic examination of the lymph nodes showed sinus histiocytosis and lymphocyte depletion, but there was no evidence of tumor tissue.

The consultation indicated postoperative irradiation and hormonal therapy.

DISCUSSION

The largest number of pathologic changes in the breast occur as a palpable formation. The majority of them (about 90%) are benign, while only 10% of them represent a malignant disease, most usually carcinoma. Invasive ductal carcinoma of no special type is the most common pathohistologic type of breast carcinoma, accounting for 65 to 80% of all breast cancers. In the last twenty years, the incidence of ductal carcinoma *in situ* significantly increased (from 5% to 15% and even more), and the two pathohistologic types are by far the most commonly encountered breast cancers. The fact reported in the Introduction that 4,271 patients underwent surgery for breast carcinoma at the University Hospital for Tumors, Zagreb, Croatia from January 1, 1990 to

January 1, 1999 is therefore perfectly respectable. For comparison, the Institute of Pathology at the «Sestre milordnice» University Hospital in Zagreb reported 2,380 breast cancer cases over the period 1980-2001, with 90% of these patients having invasive ductal carcinoma (4). When we take into consideration the number of patients treated for breast carcinoma at the University Hospital for Tumors in Zagreb over the observed nine-year period, by a simple calculation we may come to the fact that per 1,000 patients operated for breast cancer only six will have tumor smaller than 5 mm in diameter. In the case of the patient L.J. T., invasive ductal carcinoma of 1.5 mm in diameter measured using an ocular micrometer was the smallest breast cancer detected in the University Hospital for Tumors in Zagreb to date. The diagnostic algorithm for suspicious breast lesions includes mammographic screening, breast ultrasound, cytologic puncture and biopsy of suspicious changes (5). In the reported case, the blood-tinged discharge from the right breast was a guideline for early detection of breast malignancy.

CONCLUSION

The case of a patient presented for the occasional occurrence of a blood-tinged discharge from the nipple of the right breast was reported. Diagnostic tests confirmed the suspicion of malignancy. A markedly small invasive ductal carcinoma of 1.5 mm in diameter and intraductal carcinomas *in situ* were found. The surgical procedure included quadrantectomy and evacuation of axillary lymph nodes (twenty-two lymph nodes with no traces of tumor tissue). Radiotherapy and hormonal therapy (tamoxifen) will additionally improve a very good prognosis of the disease.

REFERENCES

1. Rosen PP. Staging of breast carcinoma. In: Rosen's Breast Pathology, Rosen PP, Lippincott Williams and Wilkins, Philadelphia, 2nd edition, 2001: 253.
2. Vrdoljak VD, Orešić V, Roth A, Milas I, Orešić T, Bibić A, Šuperina F, Bosnić G, Mužina D. Effect of breast screening program on the increased number of newly detected T1 tumors. Libri oncolog 2001; 29: 163.

3. World Health Organization Classification of Tumors. Pathology and genetics of tumours of the breast and female genital organs. Tavassoli FA, DeVilee P. ed. IARC Press, Lyon 2003: 74.
4. Belicza M, Krušlin B, Čupić H, Tomas D, Vučić M. Patohistološki entiteti koji se manifestiraju kao palpabilna tvorba u dojci. Znanstveni sastanak «Bolesti dojke». Hrvatska akademija znanosti i umjetnosti, Zagreb 2002: 129.
5. Unušić J, Jakić-Razumović J, Ivrlač R, Hulina D, Džepina I, Mijatović D, Bulić K, Majerović M, Podolski P. Palpabilna tvorba u dojci kao klinički

problem. Znanstveni sastanak «Bolesti dojke». Hrvatska akademija znanosti i umjetnosti, Zagreb 2002: 143.

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Author's address: Andrej Roth, M.D., Dept. of Surgical Oncology, University Hospital for Tumors, Ilica 197, 10000 Zagreb, Croatia