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## Breast cancer in a male patient with a BRCA1 mutation - a case report

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### Abstract

A 71-year-old patient with BRCA 1 mutation and breast cancer diagnosed in prophylactic screening. This case shows how crucial prophylactic screening is. BRCA1-positive patients, both men and women, need to be under special care, hence the diagnostic process and treatment should take place in highly specialized centers.

### Introduction

The mutation in the BRCA 1 gene in women increases the risk of developing breast and ovarian cancer. In men, it is mainly associated with an increased risk of the fallopian tube, colon and prostate cancer.

Men account for 1% of breast cancer patients, very often its occurrence is associated with a high penetration of the mutation in the BRCA 1 gene and the familial occurrence of breast cancer.[1,2]

The curability of breast cancer is closely correlated to the severity of the disease at the time of detection.[3]

### **Case report**

In a 71-year-old patient with BRCA 1 mutation, prophylactic screening led to the detection of the breast cancer. After the diagnosis, the patient underwent right-sided mastectomy and a diagnostic excision of the sentinel lymph node from the right axillary cavity. At three years of follow-up, the patient is considered to have no recurrence of the neoplastic disease.

### **Discussion**

Current knowledge of breast cancer in men with the BRCA 1 gene mutation is limited. Usually the disease is detected at a late stage, which results in a small chance of curing the disease. Prophylactic treatment in such patients should include systematic control in Oncological Out-patient departments, by breast imaging in ultrasonography and mammography. A prophylactic mastectomy could be seen as a controversial preventive method that reduces the risk of breast cancer in men with a BRCA 1 gene mutation. It is a method that involves significant mutilation and the indications for its use require further research.

**Keywords:**BRCA 1; breast cancer in men;

### **Introduction**

Malignant tumor of the breast is the second most common malignant tumor in the world and the first in women. Women constitute 99% of patients diagnosed with breast cancer, and its detectability is very high, usually in less advanced stages of the disease due to numerous prevention and screening programs. Preventive examinations in breast cancer are mammography or ultrasound, low cost and minimally invasive tests. Men are usually not screened and the disease is diagnosed at an advanced stage with little chance of cure. Mutation in the BRCA 1 gene is a known genetic predisposing factor for breast cancer in both women and men. The risk of getting sick depending on additional factors is even 80%. Patients with a recognized mutation in the BRCA 1 gene undergo strict oncological control, in some patients after the end of the reproductive period, prophylactic mastectomies reduce the risk of malignant breast cancer.

## **A case report**

A 71-year-old patient with a confirmed mutation in the BRCA 1 gene, whose twin brother died several years earlier due to disseminated breast cancer, was regularly monitored at the oncological surgery clinic. In routinely performed imaging examinations, the malignant neoplasm of the diameter of 11 mm was found in the ultrasonography of the right nipple. There were no pathological lymph nodes within the axillary cavity. A thick needle biopsy of the described lesion was performed. Histopathological examination showed the malignant character of lesions with invasive lobular carcinoma expressing the estrogen receptor 90%, progesterone receptor 40% and proliferation index 6%. The patient was qualified by the oncology committee for breast cancer for right-sided mastectomy with diagnostic retrieval of sentinel lymph nodes. The procedure was carried out routinely. Metastasis to sentinel lymph nodes has not been demonstrated. The patient after an uncomplicated post-operative course stays in control for 3 years without recurrence of neoplastic disease. He did not use inhibitors for estrogen receptors.

## **Discussion**

There are no unambiguous guidelines for dealing with men diagnosed with BRCA 1 gene mutation in both prevention and treatment. Properly conducted prevention allows to detect the disease at its early stage and to undertake the necessary treatment. In the described case, systematic imaging in a patient with a history of familial and genetic history enabled the detection of a neoplastic lesion limited only to the breast gland. Radical treatment was possible. The case of the patient was analyzed during the meeting of the breast cancer commission both in terms of systemic treatment and postoperative hormone therapy. A decision was made only on surgical treatment and strict post-operative control. In this case, such behavior was justified by good prognostic factors and the fear of significant side effects of hormone therapy. Systemic treatment, radiotherapy or hormone therapy should be considered individually for each patient regardless of gender, an interdisciplinary approach increases the chances of healing. Prophylactic mastectomy that reduces the risk of developing breast cancer is a procedure performed by women depending on the opinion of the genetic counseling or oncology committee for breast cancer. Due to low hormonal stimulation and a smaller amount of glandular tissue, such behavior in men, even when burdened with an interview seems to be disproportionate to the expected benefits, leading to unnecessary mutilation. [4,5]

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