

# Combined surgery for ischemic heart disease and breast cancer in a male: a case report

*Erkek hastada kombine meme kanseri ve koroner baypas ameliyatı: Olgu Sunumu*

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## Introduction

Arteriosclerotic cardiovascular disease and cancer are the most frequent diseases affecting the adult population and surgical therapy is the main treatment modality in majority of the cases (1). In this case report we represent a male patient in whom modified radical mastectomy and coronary bypass operation were done in the same session. To our knowledge, this is the first reported case of combined coronary artery bypass grafting and radical surgery for breast cancer done in a man.

## Case Report

A 73-year-old man presented with a 6-month history of exertional angina. On preoperative routine physical examination, we incidentally detected a subareolar mass in the left breast. In light of his complaints, we focused on both coronary disease and additional mass of left breast. For differential diagnosis of the mass we consulted the patient with general surgeons, and ultrasonography revealed a well-defined mass approximately 2.5 cm in diameter and after fine needle aspiration they reached a conclusion that the mass is malignant. Coronary angiography revealed severe double-vessel disease (LAD and Cx) with an ejection fraction of 45% and association with anteroapical and inferior hypokinesia. He had Canadian functional class III angina and was receiving maximal antianginal treatment. His medical background included tobacco use for the last fifty years and mild hypertension. While awaiting surgical revascularization in the hospital, the patient was examined for the metastatic disease and no metastasis was found. At operation, we first performed double-vessel coronary artery bypass using saphenous vein grafts with a standard technique by using cardiopulmonary bypass with moderate hypothermia and isothermic blood cardioplegia. The patient remained hemodynamically stable throughout the procedure, which was otherwise uneventful, and at the end of the procedure heparin was reversed with protamine. Despite total reversal of heparin, in an effort to reduce perioperative bleeding in both operations, a low-dose regimen of aprotinin was given at a dosage of 500.000 U before and during

bypass, with further 200.000 U given after the bypass. Left modified radical mastectomy with axillary lymph node dissection was performed to the patient by general surgeons after closing sternotomy incision without any extra bleeding tendency. Pathological examination showed that the mass was invasive intraductal carcinoma with minor vascular invasion. Among the lymph nodes dissected at surgery metastasis was detected at only one lymph node out of twenty. There were neither perioperative nor postoperative complications noticed and two weeks after operation adjuvant anticancer treatment was started. This is his third postoperative year without any evidence of cancer recurrence and he is free of angina pectoris with patent bypass grafts shown by control angiography.

## Discussion

Carcinoma of the male breast is a relatively rare disease that accounts for less than 1% of all cases of cancer in men and approximately 90% of all breast tumors in men are invasive carcinomas (2). In contrast to the increasing incidence of breast cancer in women, the incidence of breast cancer in man has remained stable over the past four decades (3). The major problem in men is that they have the high risk of delay between the onset of symptoms and the diagnosis of breast cancer, possibly because of the limited public awareness of breast cancer in men. For men who present with nonmetastatic disease, the currently recommended surgical therapy is modified radical mastectomy based largely on accepted regimens for women with the disease (4). The unknown, but presumably reduced life expectancy of patients with malignant tumors may dissuade most of the surgeons from performing open heart operations, and another contributing factor to this idea is the concern of cancer treatment failure as a result of impaired immune system after cardiopulmonary bypass (5). Today we gratefully have the chance of using beating heart technique in appropriate patients, which was not suitable for our patient because of heavy adhesions and cardiac position. The avoidance of cardiopulmonary bypass may be advantageous by decreasing blood loss, pulmonary complications and hospital stay. Furthermore, exposure to

the immunosuppressive and inflammatory effects of cardiopulmonary bypass may have deleterious impact on tumor growth and dissemination (5). But, in our patient, beating heart technique was not suitable because of intramyocardial LAD artery and deep position of the Cx coronary artery. Despite all these negative impacts, standard cardiopulmonary bypass technique was used successfully without any harm to the patient even in late follow-up. We didn't use internal mammary artery as a bypass conduit because we incidentally found that the internal thoracic lymph nodes were enlarged, which was suspected to occur, but later pathologic examination revealed no metastasis. During these combined procedures for cancer and ischemic heart disease, primary or metastatic malignancy may be encountered in the course of internal thoracic artery mobilization for grafting and abnormally enlarged internal thoracic lymph nodes should always be sent for pathological examination. In our patient, we decided to use saphenous vein grafts because of the suspicion of malignant invasion of the lymph nodes. In the follow-up period, there is no evidence that adjuvant radiotherapy after mastectomy improves survival, but men may have a higher risk for internal mammary lymph node metastasis and internal mammary artery use should be avoided and additionally, in theory, could benefit from internal mammary radiation therapy. Although the evidence is limited, most studies point to a benefit from both adjuvant tamoxifen and chemotherapy. As in women, axillary lymph node status, tumor size, histological grade, and hormone receptor status have been shown to be significant prognostic factors in men with breast cancer and it was shown that 10-year survival rate for patients with histologically node-negative disease was 84% compared with 44% for one to three positive nodes, and 14% for four or more positive nodes (4). Given the

known benefit of adjuvant therapy for women, we recommend that men also be offered adjuvant therapy using the same guidelines that are the standard of care for women. In our opinion, coronary artery revascularization should anticipate surgery for cancer and simultaneous combined procedures should be chosen when possible. Concomitant surgical treatment seems to be safe and beneficial in carefully selected patients who have surgically correctable coronary artery disease and potentially curable breast cancer even in males. To our knowledge, this case is the first documented instance of a combined operation for coronary artery disease and breast cancer in a male patient. It demonstrates the feasibility of a combined procedure, and we believe that these kinds of combinations should be considered as a management option when dealing with a patient who has surgically curable cancer and also requires coronary artery revascularization.

## References

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