Cancer therapy – related cardiac dysfunction: a case report

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Introduction: Cardiotoxicity is an important complication of several cancer therapeutic agents. The spectrum of cardiovascular complications of cancer therapy is wide and includes left ventricular (LV) dysfunction, congestive heart failure (CHF), coronary vasospasm, angina, myocardial infarction, arrhythmias, systemic hypertension, pericardial effusion, pulmonary fibrosis and pulmonary hypertension.[1,2] Several anticancer agents, such as anthracyclines, trastuzumab/pertuzumab (monoclonal antibodies), cyclophosphamide, 5-fluorouracil, angiogenesis inhibitors and tyrosine kinase inhibitors (TKIs) are associated with an increase in the risk of cardiovascular morbidity and mortality.

Case report: 47-year-old woman with diagnosed breast cancer (pathohistological diagnosis: invasive carcinoma), started with neoadjuvant chemotherapy (doxorubicin and cyclophosphamide). From earlier in the patient known chronic kidney disease with stable renal function. Prior to treatment, echocardiography was performed and determine the preserved systolic function of LVEF 62%, GLPS Avg -13,8%. After two cycles of chemotherapy, the deterioration of renal function was monitored, and treatment with taxane (paclitaxel) was started, cyclophosphamide was excluded. Concomitantly with the taxane the patient was treated with double anti-HER therapy (trastuzumab + pertuzumab). After 6 months, the patient has an intolerance to physical exertion, bilateral pleural effusions present on lung X-ray, and laboratory analysis shows NT-proBNP >30000 ng/L with further exacerbation of chronic renal injury (terminal stage). Control echocardiography showed significantly reduced systolic function LVEF 25% globally reduced contractility, with dilatation of the left heart cavities, GLPS Avg -5,6%.

Conclusion: The development of newer, more potent and targeted chemotherapeutic agents has improved the outcome of patients with cancers, but a cardiotoxic effect should be considered, especially if more than one cardiotoxic drug is administered.[3,4] It's also important to individually assess the possible cardiac consequences in each patient with regular echocardiographic monitoring. Timely determination of the cardiotoxic effect certainly changes the course of the disease and affects the final outcome.

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