

Severe cardiotoxic myocarditis in a previously healthy 44-year-old female patient treated with dual anti-HER therapy in a neoadjuvant protocol for breast cancer

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Introduction: We present a case report of severe cardiotoxicity in patient treated with dual anti-HER therapy in a neoadjuvant protocol.

Case report: 44-year-old patient, with no comorbidities, was diagnosed in June of 2022 with luminal B, HER 2 positive breast cancer. Neoadjuvant chemotherapy (ACdd protocol), followed by HER-2 dual blockade (trastuzumab and pertuzumab) with an addition of paclitaxel was admitted before planned surgical treatment. Echocardiogram, performed regularly during treatment, confirmed a normal ventricular function. One month after finishing neoadjuvant protocol (in February of 2023), patient was diagnosed with congestive heart failure due to severe left ventricular dysfunction and reduction in ejection fraction (EF, 15%). Optimal medical therapy was prescribed, and she was discharged home. In March 2023, she was admitted hospital for planned surgical operation, but since her symptoms did not improve, a worsening of left ventricular dysfunction was detected as well as pulmonary embolism, and she was transferred in Cardiac Intensive Care unit where inotropic and vasopressor therapy (dobutamine and norepinephrine) was initiated. Echocardiogram showed significantly reduced EF (15-20%). Additionally, NMR showed subepicardial and mesocardiac fibrosis suspicious for myocarditis. Myocardial biopsy was not performed, but regression in levels of troponin were accomplished with methylprednisolone admission. Since rhythmic instability, as well as NMR results and reduced systolic function (EF 35%), the patient received a subcutaneous ICD. Right breast segmentectomy and sentinel biopsy were performed after relative cardiac stabilization. The patient continued to be monitored in outpatient clinic and regular echocardiogram registered a slightly better EF, now about 40-45%.

Conclusion: A significant issue arises in patients undergoing a neoadjuvant protocol when systemic oncological treatment is given prior to surgery.¹⁻³ In these patients, the emergence of significant cardiotoxicity impacts the timing of surgical intervention and, consequently, the prognosis of the malignant disease.

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LITERATURE

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