**TRASTUZUMAB INDUCES SYSTEMIC OXIDATIVE STRESS IN AN EXPERIMENTAL BIOLOGICAL MODEL**

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Nearly 30% of breast cancer cases present an aggressive biology characterized by overexpression of receptor protein for human epidermal growth factor 2, ErbB2 (HER2). Treatment with Her2 directed monoclonal antibodies like Trastuzumab improves survival of these patients subgroups. Unfortunately, use of these agents induces varying grades of cardiotoxicity. Since cardiotoxicity is mediated through oxidative stress we analyzed the Trastuzumab posttreatment oxidative systemic profile in an experimental biological model. *Methods*. 20 female Wistar rats were included in our study, with mean weight 310.25±23.51, divided in two groups: control, n=10 (with no treatment), and those treated with 4 doses of Trastuzumab (2mg/Kg qod, n=10). Two days after the 4th dose, and under anesthesia with sodium pentobarbital, serum samples were obtained to determine levels of biomolecular markers of oxidative stress: dihydro and tetrahydrobiopterin (BH2, BH4), malonyl dialdehyde (MDA), endothelin-1 (ET1), bradykinin (BDK), nitric oxide (NO), 8-hydroxi-2´-deoxiguanosine, p-cresol and the total antioxidative capability.

*Results.* When compared with the group of control models, the serum of Trastuzumab treated rats had 86% decrease of CAT levels, a 3.6 times increase in MDA levels, BDK and NO had 90% and 66% decrease, each one, BH2 increased 3.98 and BH4 decreased 3 times, and finally ET1 had a 3.5 times increase.

*Conclusions*. Systemically, treatment with Trastuzumab (4 doses) induced increase of the oxidative stress, and decrease of the systemic antioxidative capability, which could represent a promoting phase for cardiac dysfunction.