

AR Expression in Breast Cancer and the Potential Role of Antiandrogens as Treatment: A Review

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Abstract:

Triple Negative Breast Cancer (TNBC) has very few targeted therapy options. The androgen receptor (AR) plays a promising role in the treatment of treatment-resistant breast cancer. There is controversy on whether an AR agonist or antagonist is best for breast cancer treatment. In this review, we analyzed research papers that used animal research, human breast cancer pathology datasets, as well as clinical trials. There was compelling data that AR:ER ratio is a prognostic indicator for breast cancer. While there is conflicting data on androgen agonists vs antagonists, the data is currently favoring anti-androgens as a treatment model. Androgens express key elements in the cell cycle and when antiandrogens are combined with CDK4/6 inhibitors, there is a synergistic effect. Our lab has a current clinical trial using anti-androgens in heavily pretreated breast cancer which is showing promising results.