

Management of breast cancer is facing enormous progress, resulting in decreasing mortality rates in most developed countries. Improving treatment outcomes result both from earlier diagnosis and better treatments, consequential to better understanding of the biology of breast cancer. Breast cancer is not a single disease and its treatment strategies are based on the assessment of extent and phenotype of the tumor in particular patients. The main biological determinants of treatment choices are the status of estrogen receptor and HER2, dividing all cases into 3 main phenotypes: luminal HER2-negative, HER2-positive and triple negative.

The aim of treatment of early breast cancer is cure. In contrast, metastatic breast cancer remains incurable in most patients, although the expected survival has risen significantly over the last decades. Most of the progress observed is related to the use of targeted therapies: endocrine-based therapies in luminal HER2-negative disease and anti-HER2 treatments in HER2-positive tumors. Over the last years the development of antibody-drug conjugates allowing for targeted delivery of toxic payload selectively to cancer cells has resulted in previously unseen outcome improvements across all subtypes. Additionally, in the difficult-to-treat triple negative breast cancer, immunotherapy allows for improvement in outcomes in both early and advanced disease.