Mathematical modeling of a HER2 breast cancer evolution after resection for a patient

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Abstract

Breast cancer is the most common neoplasia in women and the leading cause of death. One of the most aggressive types is the Human Epidermal Growth Factor Receptor 2 (HER2). In this work, we study the evolution of a patient with HER2 breast cancer using a mathematical model considering the size of the tumor, and the quantity of lymphocytes and neutrophils over a period of time after the initial resection of the tumor. Evidence shows that the evolution of this type of cancer can be forecast with the ratio neutrophils/lymphocytes, and we will use the prediction given by the model of this ratio to provide a decision criterion to the doctor to administrate treatments appropriately.

References

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