

HER2-positive breast cancer

An aggressive type of breast cancer

Breast cancer: a global problem

Breast cancer is the most common cancer among women.¹ Each year about 1.6 million new cases are diagnosed worldwide, and over 500,000 women will die of the disease.¹ This means that one woman is diagnosed with breast cancer somewhere in the world **every 20 seconds** and more than three women die of breast cancer **every five minutes** worldwide.¹

HER2-positive breast cancer: an aggressive disease

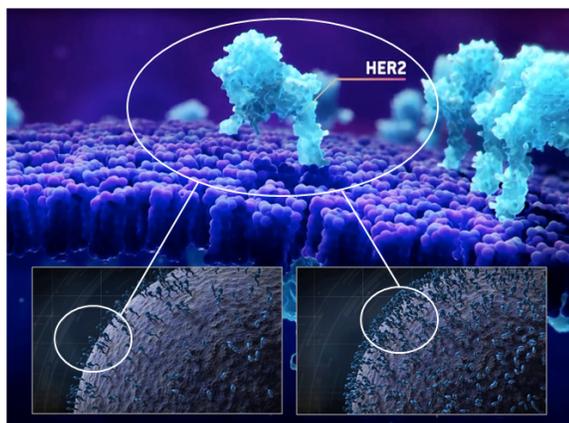


Figure 1: HER2 overexpression

Approximately one in five women diagnosed with breast cancer worldwide will have HER2-positive breast cancer, a particularly aggressive form of the disease.² HER2 is a protein found in abnormally high quantities on the outside of HER2-positive cancer cells (see Figure 1).

Early and advanced HER2-positive breast cancer

With breast cancer, if the cancer is only present in the breast and is considered operable, the disease is classified as early. Approximately 98% of people with early breast cancer (eBC) will survive for five years if they are treated.²

The term advanced breast cancer (aBC) can be used to describe metastatic or locally advanced disease. Locally

advanced breast cancer means that the cancer has spread locally in the area of the breast to the skin or chest wall but not to the distant organs. Metastatic breast cancer occurs when the cancer has spread further to other parts of the body such as the bone, liver, lung and brain. Although more women are diagnosed with early rather than advanced breast cancer each year, most deaths are due to advanced disease. Statistics show that only one in four people diagnosed with aBC will still be alive five years later.⁴

HER2: driving cancer growth

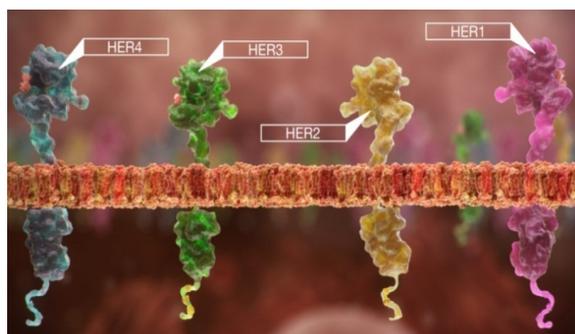


Figure 2: The four proteins of the HER family

A HER2-positive cancer cell has approximately two million HER2 proteins on its surface, around 100 times more than a normal cell.⁵ This HER2 overexpression causes cells to grow and divide more rapidly. Pairing of HER proteins (also called dimerisation) is a vital step in the signalling pathway that leads to cancer cell growth. There are four proteins in the HER family (see Figure 2), and HER2 has been found to pair with other HER family members, including other HER2 proteins. This act of pairing can send additional signals to encourage the cancer cell to grow and multiply.⁵

HER2-positive breast cancer: treatment

In the past, people with HER2-positive breast cancer were expected to have worse survival outcomes than people with HER2-negative disease. Over the past 15 years, significant progress has been made, and today people with HER2-positive breast cancer treated with HER2-targeted medicines now typically experience better outcomes than people with HER2-negative disease.⁶

There is currently no cure for advanced HER2-positive breast cancer. Despite improvements in patient outcomes achieved in recent years, 50 percent of people with advanced disease who are treated with the current standard of care will see their disease progress within 18 months.⁷ Additional treatment options are, therefore, urgently needed for people with advanced HER2-positive breast cancer.⁸

References

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