HER2 Positive Gastric Cancer

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There were more than 1 million new cases of gastric cancer worldwide in 2018, with approximately half of all cases occurring in Eastern Asia.[1]

In 2018, gastric cancer was the:[1]

3rd leading cause of cancer death for both men and women worldwide

7th most commonly occurring cancer in women

4th most commonly occurring cancer in men

~66% of gastric cancer cases globally were among men in 2018

Gastric cancer stages

- Approximately **two-thirds** of people diagnosed with gastric cancer in Western countries have regional (Stages 2–3) or metastatic (Stage 4) disease.[2]
- In Eastern countries, such as Japan, it is estimated that **more than half** of patients with gastric cancer are diagnosed with localized (Stage 1) disease.[3]
- Survival rates are modest generally, and poor in advanced disease.[4]

Five-year survival rates:[5*]

The stage at which a patient is diagnosed can impact prognosis.

LOCALIZED/STAGE 1
(has not spread outside the stomach)

REGIONAL/STAGES 2–3
(spread limited to nearby tissues and/or lymph nodes)

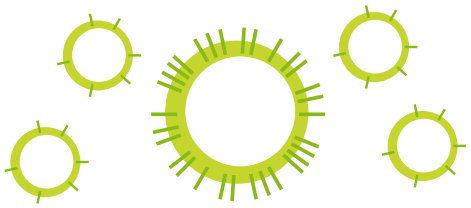
DISTANT/STAGE 4
(metastasized to areas such as the lungs and liver)

*Five-year survivial rates based off U.S. data. Stages mentioned are based on the American Joint Committee on Cancer's (AJCC) TNM Staging System.

Human Epidermal Growth Factor Receptor 2 (HER2)

Gastric cancer can be classified by several factors, including by the presence of HER2, a type of growth-promoting protein found on the surface of cells.[6]

All gastric cells have HER2 receptors, but some gastric cancers have **more HER2 receptors than normal**, which may promote tumor growth[6]



~1 in 5 gastric cancers are considered HER2 positive, meaning they have a high level of HER2 protein overexpression[6,7]

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HER2 Status Testing

In order to understand the HER2 status of cancer cells, testing is conducted by two methods: **immunohistochemistry (IHC)** and ***in situ* hybridization (ISH)**.

IHC testing measures the amount of HER2 protein, with results reported as 0, 1+, 2+ or 3+.[8]

HER2 NEGATIVE

Currently, **results of 0 or 1+ indicate a HER2 negative** gastric cancer diagnosis. This means that patients have a normal level of expression of the HER2 protein on their cancer cell surface.

A finding of **2+ is equivocal and typically will be confirmed by an ISH test**, which counts the copies of the *HER2 gene* in cells. ISH results are either "positive" or "negative" for *HER2 gene* amplification.[8,9]

HER2 POSITIVE

A result of **3+ indicates a HER2 positive** gastric cancer diagnosis. This means that patients have a higher than normal level of the HER2 protein on the surface of their cancer cells.

Treatment Options[1]

- For all patients with gastric cancer, it is important to get tested for the presence of biomarkers and discuss appropriate treatment options.
- HER2 positive cancers may respond to treatments that target the HER2 protein.[8]
- The recommended first-line treatment for HER2 positive advanced or metastatic gastric cancer is combination chemotherapy plus trastuzumab, an anti-HER2 agent, which has been shown to improve outcomes when added to chemotherapy.[9] For gastric cancer that progresses on trastuzumab, there are no other approved HER2 targeting therapies, and subsequent treatment options are limited.[9]

SURGERY | **RADIATION** | **CHEMOTHERAPY** | **TARGETED THERAPY**

References

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