

Immune system important in fight against stomach cancer

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Researchers have identified cells in the immune system that react to the stomach ulcer bacterium *Helicobacter pylori*, one of the risk factors for the development of stomach cancer. This discovery could lead to faster diagnosis and treatment as well as a better prognosis for patients with stomach cancer, reveals a thesis from the University of Gothenburg, Sweden.

[Helicobacter pylori](#) is one of the most common bacterial infections in the world, and leads to chronic inflammation of the stomach. While carriers are generally symptom-free, the bacterium can cause stomach ulcers and, sometimes, the development of stomach cancer. As the symptoms of stomach cancer are varied, it is often discovered at a late stage and has a very poor prognosis.

"We don't know how the [chronic inflammation](#) caused by *Helicobacter pylori* affects the development of stomach cancer," says Asa Lindgren, a researcher from the Department of Microbiology and Immunology. "So it was interesting to study how the immune system behaves towards *Helicobacter pylori* in the stomach."

The team looked at how NK cells (natural killer cells - a type of immune cell) reacted to *Helicobacter pylori*. These cells are an important part of the [immune system](#) as they can both recognise and kill cells that are infected by viruses and bacteria as well as [tumour cells](#).

"We found that a special type of NK cells was active against the stomach

ulcer bacterium," says Lsa Lindgren. "These NK cells produced cytokines, which are the immune system's signal substances and act as a defence against the intruder."

The researchers' results suggest that NK cells can play an important role in the immune defence against *Helicobacter pylori*. Previous research has also shown that a high proportion of NK cells in tumour tissue has contributed to a better prognosis and longer survival for patients with stomach cancer, as these cells help to eliminate the tumour cells.

The researchers therefore believe that activation of the NK cells can play a key role in stopping tumours from developing, and that reduced NK-cell activity can increase the risk of cancer developing. Lsa Lindgren hopes that these findings can be used to develop new ways of diagnosing and treating stomach cancer.

"This would make it possible to diagnose [stomach cancer](#) at an early stage, which, in turn, could mean a better prognosis for the patients."

Provided by University of Gothenburg

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