

New heated drug baths provide hope for patients with stomach cancer

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Mayo Clinic researchers have used a new approach to chemotherapy to

more than double the typical survival rate for patients with stomach cancer and peritoneal metastasis, which is cancer that has spread to the lining of the abdominal cavity, according to a study [published](#) in the *Annals of Surgical Oncology*.

Stomach cancer, which is also called [gastric cancer](#), is caused by an uncontrolled growth of cells that starts in the stomach. Most stomach cancers are found when the disease has spread beyond the stomach and a cure is less likely.

"We're seeing an increase in stomach cancer in [younger people](#), and it tends to be more advanced," says Travis Grotz, M.D., surgical oncologist. "Unfortunately, when stomach cancer spreads to the peritoneum, systemic therapy is the primary treatment, resulting in only one year to live on average. Our research team was determined to improve outcomes for these patients so they can have more time with their family and friends."

In the study, the patients received cytoreductive surgery to remove all visible cancer tumors in the stomach and abdominal cavity, followed by hyperthermic intraperitoneal [chemotherapy](#) (HIPEC). During HIPEC, the abdominal cavity is bathed with hot chemotherapy drugs, in this case cisplatin and paclitaxel, for 90 minutes to kill any remaining microscopic cancer cells.

Heating the chemotherapy drugs and administering them directly into the [abdominal cavity](#) allows for both a higher dosage and greater penetration of the chemotherapy, resulting in more [cancer cells](#) being destroyed than conventional treatment, say the researchers.

"The median survival for most stage 4 gastric cancer patients is around

13 months," says Dr. Grotz, who is lead author of the study. "By using this new combination of chemotherapy drugs during hyperthermic intraperitoneal chemotherapy, more than half (55%) of our patients are still alive three years after surgery."

The patients studied were ages 46-62 with stage 4 gastric cancer with peritoneal metastasis. They received an average of seven cycles of chemotherapy prior to undergoing cytoreductive surgery combined with hyperthermic intraperitoneal chemotherapy. After the procedure, the patients stayed in the hospital for around six days, with most patients having no complications. Of the patients who had complications, most were lower-grade and didn't prolong their [hospital stay](#).

Researchers followed the patients clinically with imaging and tumor markers every three to four months for the first two years and every six months thereafter. The one, two and three-year overall [survival rates](#) were 96%, 78% and 55%, respectively.

The research team is looking to improve those outcomes even further by performing similar procedures robotically to require smaller abdominal incisions. The goal is to decrease the length of hospital stays and complication rates and quicken recovery so patients can get back to enjoying their lives. Eventually, Dr. Grotz hopes to do the procedure even sooner after diagnosis to prevent the spread of [stomach cancer](#) to the peritoneum.

"People with gastric cancer are usually told they have no hope and no options. When I was a [medical student](#), I was motivated to wholly understand the cancer, how to treat it to really make a meaningful impact and cure some of these patients or prolong their survival or help alleviate their symptoms," says Dr. Grotz. "Although we still have a long way to go, we've made some big strides and will continue to make progress to provide hope and healing for our patients."

More information: EeeLN Buckarma et al, Cytoreduction and Hyperthermic Intraperitoneal Paclitaxel and Cisplatin for Gastric Cancer with Peritoneal Metastasis, *Annals of Surgical Oncology* (2023). [DOI: 10.1245/s10434-023-14379-2](https://doi.org/10.1245/s10434-023-14379-2)

Provided by Mayo Clinic

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