

Hyperthermic intraoperative peritoneal chemotherapy and cytoreductive surgery for people with peritoneal metastases: a systematic review and cost-effectiveness analysis

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Plain language summary

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Plain language summary

What was the question?

Cancers of the bowel, ovary or stomach can spread to the lining of the abdomen ('peritoneal metastases'). Chemotherapy (the use of drugs that aim to kill cancer cells) given by injection or tablets ('systemic chemotherapy') is one of the main treatment options. There is uncertainty about whether adding cytoreductive surgery (cytoreductive surgery; an operation to remove the cancer) and 'hyperthermic intraoperative peritoneal chemotherapy' (warm chemotherapy delivered into the lining of the abdomen during cytoreductive surgery) are beneficial.

What did we do?

We reviewed all the information from medical literature published until 14 April 2022, to answer the above uncertainty.

What did we find?

We found the following from eight trials, including about 1000 participants.

1. In people with peritoneal metastases from bowel cancer, hyperthermic intraoperative peritoneal chemotherapy + cytoreductive surgery + systemic chemotherapy probably does not provide any benefits and increases harm compared to cytoreductive surgery + systemic chemotherapy, while cytoreductive surgery + systemic chemotherapy appears to increase survival compared to systemic chemotherapy alone.
2. There is uncertainty about the best treatment for people with peritoneal metastases from stomach cancer.
3. In women with peritoneal metastases from ovarian cancer who require systemic chemotherapy before cytoreductive surgery to shrink the cancer to allow surgery ('advanced ovarian cancer'), hyperthermic intraoperative peritoneal chemotherapy + cytoreductive surgery + systemic chemotherapy probably increases survival compared to cytoreductive surgery + systemic chemotherapy.

What does this mean?

In people who can withstand a major operation and in whom cancer can be removed, cytoreductive surgery + systemic chemotherapy should be offered to people with peritoneal metastases from bowel cancer, while hyperthermic intraoperative peritoneal chemotherapy + cytoreductive surgery + systemic chemotherapy should be offered to women with peritoneal metastases from 'advanced ovarian cancer'. Uncertainty in treatment continues for gastric cancer.

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