

Combined modality treatment for peritoneal cancer spells hope

Surgery with heated chemotherapy has shown some excellent long-term results

While until recently some cancers that had spread to the peritoneum were automatically associated with a shortened life expectancy, there is now hope for many patients.

Several abdominal malignancies, including those affecting the colon, appendix and ovaries, can spread to the peritoneum, a membrane covering the external surface of the organs in the abdomen, leading to an advanced disease that was once deemed almost impossible to treat, according to Dr Melissa Teo, a surgical oncologist at Mount Elizabeth Novena Hospital in Singapore.



A specialist in stomach and colorectal oncology at Mount Elizabeth Novena Hospital, Dr Melissa Teo is also a professor at Duke-NUS Medical School and a visiting consultant at the National Cancer Centre Singapore.

The peritoneum is the second commonest site for colorectal cancer metastases and an organ where other cancers within the abdomen often spread to, she explained. "Previously, when patients had colon cancer going to the peritoneum, they were told there was no hope and that they would live for about six months. Even with modern chemotherapy, they may live for about a year or two at most, but nowadays that has changed with the development of cytoreductive surgery (CRS) plus hyperthermic intraperitoneal chemotherapy (HIPEC)," said Dr Teo, who has successfully carried out the combined treatment on hundreds of patients.

The twofold therapeutic approach involves a meticulous surgery that removes all the cancerous tumours in the abdomen, sometimes including the complete removal of the peritoneum and instillation of heated chemotherapy. Once all the visible tumours are removed, heated chemotherapy drugs are delivered into the patient's abdominal cavity and circulated at 42°C for 60 minutes to make sure that any remaining cancer cells invisible to the naked eyes, are killed as well.

"The advantage and attraction of giving this heated



intraperitoneal chemotherapy is that we can give very high concentrations of chemotherapy into the peritoneum cavity, and yet the patient does not have the same kind of side effects that they would get with intravenous (through the vein and blood stream) chemotherapy, because HIPEC is confined to the abdominal cavity, which is where the cancerous tumours are sited," said Dr Teo.

Unlike conventional chemotherapy, this method treating microscopic cancer cells works well for cancers sited in the abdominal cavity because apart from the high concentration of drugs that can be given, the heating process increases the effect of chemotherapy drugs by increasing their penetration into the tissues as well as their ability to kill cancerous cells, which are more vulnerable when they reach the temperature of 41-43°C.

An additional benefit of HIPEC is that it allows the even distribution of the drug to all surfaces of the abdominal cavity.

"With this surgery, up to 40 percent and up to 60 percent of patients with spread to the peritoneum from



colorectal and ovarian cancers respectively can live for more than five years, and there is a chance of being cured in some cases."

Indeed, in the case of some appendiceal tumours, which are prone to rupturing and sending cancer cells into the peritoneal cavity, up to 85 percent of patients treated with CRS and HIPEC can survive for 10 years after being diagnosed with this condition.

"That's almost like a cure, and the long-term side effects are minimum. After successful surgery, we would expect a patient to leave the hospital in just 10 days," Dr Teo added.

Potential risks associated with the procedure include

those caused by surgery like bleeding and infection.

"Many patients will return to the quality of life they had before surgery or even better within two to three months," she said.

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Phone Appointment:
+65 6250 0000 (Orchard) / +65 9898 6898 (Novena)

Whatsapp Appointment:
+65 8111 7777 (Orchard) / +65 8111 5777 (Novena)

Online Appointment:
www.mountelizabeth.com.sg