Peritoneal cancer – long-term survival with good quality of life

Thanks to an innovative treatment procedure that has been in use since 2005, surgeons from Tübingen University Hospital have been able to prolong the survival of patients with peritoneal cancer and give them a higher quality of life. This is done using a technique based on complex surgery followed by immediate intraoperative local chemotherapy on the peritoneum.

Peritoneal cancer is a malignant tumour of the peritoneum, a thin layer of tissue that lines the abdomen. Mesotheloma and primary peritoneal cancer can develop from the peritoneum, but this happens very rarely. In most cases, peritoneal cancer develops from metastases of other tumours. “Peritoneal metastases can originate from nearly any other tumour, but most commonly from gastric, intestinal and ovarian cancers,” says Professor Dr. Stefan Beckert, chief consultant in the Department of Surgical Oncology at Tübingen University Hospital (UKT). According to data collected by the Robert Koch Institute's Centre for Cancer Registry Data for 2013, around 15,600 people were diagnosed with stomach cancer, 62,400 with colorectal cancer and 7,300 women with ovarian cancer. Beckert explained that it is generally estimated that between 15 and 20 percent of colorectal cancer patients and between 10 and 15 percent of stomach cancer patients will go on to develop peritoneal metastases. “In 60 to 80 percent of women with ovarian cancer, peritoneal metastases are already present at the time of diagnosis,” said Beckert.

Peritoneal cancer is difficult to treat

Peritoneal cancer is difficult to treat with systemic chemotherapy alone. Until recently, it was therefore considered a final disease stage as it has been observed that chemotherapeutic drugs administered by way of infusion or tablets do not reach the peritoneum in high enough concentrations. According to Beckert, patients treated with this traditional method had a mean survival time of around 12 months. In the meantime, peritonectomies have been applied in combination with hyperthermal intraperitoneal chemotherapy, HIPEC for short, in Tübingen since 2005. The combined use of peritonectomy and HIPEC and is now quite common. HIPEC involves removing the entire tumour from the abdomen during a surgical intervention that takes between 10 to 12 hours. This is then followed by rinsing the patient’s abdomen with warm chemotherapy solution under anaesthesia. The drug solution consists amongst other things of either oxaliplatin or cisplatin, cytostatic drugs that inhibit cell growth and division. The latest findings from the Tübingen-based researchers show that the drugs actually reach the cancerous tissue when this method is applied.

However, Beckert emphasises that the term “cure” should be used very carefully. The real issue is long-term survival, i.e. the probability of patients surviving the initial five years after diagnosis. The long-term survival rate of peritoneal cancer patients could be significantly improved with HIPEC. “Using this method, we can achieve long-term survival in about 30 percent of colorectal cancer patients who have developed peritoneal metastases. This is considerably better than treating the cancer with cytostatic drugs alone.”

Improved long-term survival

Beckert nevertheless sounds a note of caution. Successes that have been achieved with the new therapy have not yet been proven by randomised controlled clinical trials. The reason for this is quite obvious. As other therapies do not lead to a cure, patients are unwilling to participate in such trials as those who receive HIPEC and those that undergo normal chemotherapy is decided on the luck of the draw. “Alternative treatments are usually available for other types of cancer; but this is not the case for peritoneal cancer. Therefore, before patients end up left untreated, they will of course chose the new therapy,” says Beckert. Nevertheless, he believes that the new method is an improvement, a belief that is substantiated by physicians around the world who are consistently recording better long-term survival rates. The therapy does not help all patients equally. “As doctors, our job is to identify patients whose condition is highly unlikely to improve with the method, so that we can spare them the many complications of long-term treatment,” said Beckert.

The operation is a difficult procedure that involves complete removal of the tumour. It can also involve the removal of parts of organs such as the liver, spleen and intestines. “We make sure that patients understand that the intervention is far from easy, and also explain that severe complications can occur in 30 percent of cases,” said Beckert. It is also important to be aware that the intervention only makes sense when no other metastases are present in the patient’s body. In addition, the majority of patients are relatively old and tend to have other diseases. Therefore, physicians have to carefully assess benefits and risks before commencing this type of treatment. The goal of cancer treatment is not only to increase long-term survival, but also to give the patient a better quality of life.

Increased quality of life
Patients with peritoneal cancer have numerous tumours in the abdomen.
© University Hospital Tübingen

The health-related quality of life is perceived subjectively and encompasses physical, mental, social and spiritual well-being. These data are recorded in studies for frequently occurring forms of cancer, such as colorectal cancer. Cancer can reduce the health-related quality of life, but Beckert also has positive news on this front. As a direct consequence of the operation, quality of life is initially reduced, but after about six months it increases. “The main problem with peritoneal metastases and peritoneal cancer is that sufferers have chronic intestinal passage problems, which means that they cannot eat properly and run the risk of intestinal obstruction,” says Beckert. However, once the tumour is removed, the intestine works normally again. In addition, there will also be periods when the patients will not have to undergo chemotherapy. This greatly increases quality of life. And here too the treating physician is faced with the job of having to assess whether or not surgery is of benefit to a particular patient, both oncologically and as far as their quality of life is concerned.

In order to meet these challenges, a Reference Centre for the Surgery of Malignant Diseases of the Peritoneum was established at the University of Tübingen. The centre has been certified by the German Society for General and Visceral Surgery (DGAV). The centre performs peritoneectomies twice a week. It also offers further training courses, enabling a larger number of physicians to perform peritoneectomies combined with HIPEC in the future. There are other certified centres in Berlin, Regensburg, Würzburg, Cologne and Herne, all of which are in regular contact with each other. “For us, it is very important that patients are being sent to us. The patients’ GPs play a major role here, because they need to be aware of the fact that such a procedure exists,” explains Beckert. This will help increase the number of peritoneal cancer patients that can benefit from therapy.

References:
2 Bericht zum Krebsgeschehen in Deutschland 2016, Robert Koch Institute, November 2016