

HIPEC - a New and Effective Treatment for Metastatic Abdominal Cancer

- Successful cancer treatment, provided at Sheba Medical Center, allows for the direct application of concentrated chemotherapy
- Hundreds of patients have already undergone the treatment at Sheba
- The purpose of this procedure is to destroy those cancer cells in the abdominal cavity that are not visible
- High, heated dose (up to 20 times the IV dose of chemotherapy), in combination with surgical removal of all visible tumors, is currently the most effective method of addressing metastatic cancer in the abdominal cavity

Cancer such as gastrointestinal tumors, ovarian cancer, and mesothelioma often metastasize - or spread - to the abdominal cavity. Systemic chemotherapy is usually the treatment of choice in these cases. Unfortunately, the outcome is often grim.

For example, both colorectal cancer and tumors of the appendix tend to spread in the abdominal cavity. This can create situations where the whole abdominal cavity becomes filled with tumors, causing abdominal distension. Without treatment, patients usually survive for only 5-12 months under these circumstances.

The problem with conventional chemotherapy in these cases is that it is almost always administered intravenously, through the circulatory system. These cancers often do not have a good blood supply, meaning it is difficult for the chemotherapy drugs to reach their targets via blood circulation.

A New Therapy

Around 30 years ago, a new technique started seeing limited use for specific abdominal cancers. This technique, known as cytoreductive surgery (CRS), involves the removal of all visible lesions and tumors. Since CRS is unlikely to remove all the microscopic cellular remnants of cancer, it is followed by hyperthermic intraperitoneal chemotherapy (HIPEC).

HIPEC is a chemotherapy “wash” where the abdominal cavity is bathed in high concentration chemotherapy drugs at an elevated temperature of 42°C (107.6°F). As [Prof. Aviram Nissan](#), Director of the Department of Surgery C, explains, “HIPEC was originally used only for cancer of the appendix and mesothelioma, two relatively rare diseases. However, in the last decade HIPEC has been applied to metastatic cancer in the abdominal cavity originating in the colon, stomach, and ovaries.”

HIPEC at Sheba Medical Center

The use of HIPEC for abdominal cancers has risen dramatically in the past 10 years. Today, the technique is employed at most leading cancer centers, including Sheba Medical Center. In fact, hundreds of patients have already undergone the treatment at Sheba.

Prof. Nissan describes the procedure at Sheba: “In HIPEC surgery, all the metastases are removed from the abdominal cavity. This is a long and complex process and sometimes requires the removal of various abdominal organs that are infiltrated by the tumor. At the end of the surgical portion, chemotherapy is delivered using the method called the “closed technique”. In this method, the abdominal cavity is washed with heated chemotherapy at a temperature of 42 degrees Celsius for a duration of 60-90 minutes, enabling optimal contact of the chemical material with all the abdominal organs while maintaining a high temperature, and protecting the staff from

contact with the material. The purpose of this procedure is to destroy those cancer cells in the abdominal cavity that are not visible. After delivery of HIPEC, the patient wakes up and is transferred to the recovery room."

The patients are followed up by their treatment team, including their oncologists and surgeon, subsequent to the HIPEC treatment. Sometimes, no further chemotherapy is needed after HIPEC.

Furthermore, a laparoscopic approach to deliver HIPEC has been used at Sheba Medical Center under the initiative of Prof. Aviram Nissan, Laparoscopic surgeries are minimally invasive and generally require less recovery time than conventional, open surgeries. In laparoscopic HIPEC, tiny port incisions are made to introduce a camera and surgical instruments to the abdominal cavity, rather than using a long incision as in an open procedure. These patients require no surgical drains and are typically able to leave the hospital after just a few days.

Who is a Candidate for HIPEC?

In order to be a good candidate for HIPEC treatment, a patient must fulfill a few criteria. These include:

1. Metastatic cancer must be limited to the peritoneal cavity, without spread to distant organs, as confirmed by chest/abdomen CT or PET-CT.
2. The patient should have a good functional status and be free of other significant diseases, such as kidney or cardiovascular disease.

Prof. Nissan points out, "In addition to the potential benefits that HIPEC surgery offers in improving quality of life and prolonged life expectancy, it is important to remember that due to the complexity and extent of surgery, complications may occur. In order to significantly reduce this possibility, the pre-operative assessment and the procedure itself are carried out by a highly-qualified and knowledgeable staff specializing in this unique procedure."



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Advantages of HIPEC Treatment

Another advantage of HIPEC is that a massive dose of chemotherapy drugs can be used, increasing the likelihood of eradicating the cancer. In fact, the dose given is up to 20 times the IV dose of chemotherapy. This high, heated dose, in combination with surgical removal of all visible tumors, is currently the most effective method of addressing metastatic cancer in the abdominal cavity.

As reflected by published studies, the results of HIPEC far exceed those of conventional chemotherapy or surgery alone. Now, patients that were previously considered incurable have hope of beating their disease and adding years to their life spans.