

HIPEC - An Effective Treatment Option for Abdominal Cancers

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ABSTRACT

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Hyperthermic Intraperitoneal chemotherapy is a novel treatment for Peritoneal Surface Malignancies. It involves both surgery and chemotherapy together. The treatment success depends on the correct selection of patients. The procedure is still undergoing standardization.

Keywords: HIPEC, Hyperthermic Intraperitoneal Chemotherapy, Cytoreductive Surgery, Debulking Surgery, Peritoneal Surface Malignancy

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Hyperthermic Intraperitoneal Chemotherapy (HIPEC) is a specialized treatment for Peritoneal Surface Malignancies, selected stage abdominal cancers, particularly those affecting the appendix, colon, rectum, ovaries, and stomach.¹ It involves a combination of surgery and chemotherapy delivered directly into the abdominal cavity, providing an effective treatment option for patients who may not respond well to traditional approaches.

The current status of HIPEC is promising, with increasing recognition and adoption of the procedure worldwide. While HIPEC has been used in various forms since the 1980s, it gained more prominence in the late 2000s due to improved surgical techniques and increased understanding of patient selection criteria.

One of the key advantages of HIPEC is its ability to deliver high doses of chemotherapy directly to the affected area. By heating the chemotherapy solution and using it during surgery, the drugs can penetrate the tiny cancerous nodules and reach areas that may not be accessible through conventional chemotherapy alone. The combination of heat and chemotherapy can enhance the effectiveness of the treatment, inducing direct cytotoxic effects on cancer cells while minimizing systemic toxicity.²

Additionally, HIPEC also provides the benefits of surgery to remove visible tumour implants and ensure optimal debulking, followed by chemotherapy to target the remaining microscopic disease. This multimodal approach offers a comprehensive treatment plan, making it a valuable option for patients with peritoneal metastases or advanced abdominal cancers.³⁻⁵

PROCEDURE⁶

1. Preoperative Evaluation: Patients undergo a comprehensive evaluation to determine their eligibility for HIPEC, which includes imaging tests, blood work up and consultations.

2. Cytoreductive Surgery: The first stage of the HIPEC treatment involves the surgical removal of visible tumours and any affected organs or tissues in the abdominal region. This procedure aims to reduce the tumour burden as much as possible.

3. Perfusion: Once the tumour debulking surgery is completed, heated chemotherapy drugs are infused into the abdominal cavity. The chemotherapy drugs are precisely heated to a temperature of 41-43 degrees Celsius for maximum effectiveness. The fluid is circulated for approximately 90 minutes.

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4. Postoperative Care: After the perfusion, the chemotherapy drugs are drained from the abdominal cavity, and the incisions are closed. Patients are then closely monitored in the Surgical intensive care unit before transitioning to a typical hospital room.

While the procedure itself has shown promising results, it is important to note that HIPEC is not suitable for all patients. Eligibility criteria often involve a thorough evaluation of disease extent, overall health, and surgical considerations. Therefore, a multidisciplinary team comprising surgical oncologists, radiologists, intensivists, an Anesthesiology team, and pathologists collaborate to determine the suitability of HIPEC for each patient on an individual basis.

Moreover, ongoing research and clinical trials continue to refine and improve the technique of HIPEC, intending to maximize patient outcomes. Several studies have shown positive results, with improved survival rates and prolonged disease-free intervals in patients treated with HIPEC compared to traditional treatment methods.

However, challenges remain in terms of standardizing protocols, defining optimal patient selection criteria, and expanding access to this specialized treatment option. HIPEC requires an experienced surgical oncologist trained specifically in peritoneal surface malignancies, and not all healthcare facilities have the necessary expertise and resources to offer this procedure.

In conclusion, the current status of HIPEC indicates that it is a promising and effective treatment option for many abdominal cancers. Its ability to combine surgery and targeted chemotherapy has shown favourable outcomes in selected patients, improving survival rates and disease-free intervals. With ongoing research and

continued efforts to refine protocols and expand accessibility, HIPEC has the potential to significantly impact the management of peritoneal malignancies.

END NOTE

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