

# Hyperthermic intraperitoneal chemotherapy with cytoreductive surgery: anesthesiologist perspective of 2-year experience in Hospital of Lithuanian University of Health Sciences, Kaunas Clinics

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## INTRODUCTION

Hyperthermic intraperitoneal chemotherapy (HIPEC) and cytoreductive surgery (CRS) is a two-step procedure used to treat certain tumors with abdominal metastasis. CRS is performed to remove cancerous tumors and the heated chemotherapy drugs are applied directly inside the abdominal cavity to eliminate the remaining cancerous cells [1,2]. From the 2000s all over the world, HIPEC with or without CRS has been gaining popularity for different neoplastic diseases that involve the peritoneal surface [3].

## METHODS

After ethics committee approval (BEC-MF-263) retrospective study was conducted on patients treated in the Hospital of Lithuanian University of Health Sciences, Kaunas Clinics. From January of 2020 to December of 2021 all cases of HIPEC with or without CRS were analyzed. Data including patient demographics, indications for multimodal therapy (HIPEC + CRS), duration of the anesthesia, and postoperative complications were collected. Analysis was performed using SPSS 27.0 software package. Normality of data checked by the Shapiro-Wilk test. Normally distributed variables are reported as mean and standard deviation (SD).

## CONCLUSIONS

From our 2 years of experience, we can conclude that patients who undergo CRS with or without HIPEC are usually suffering from severe disease, which limits their activity, but is not incapacitating. Usually, in these cases, anesthesia lasts longer, so the anesthesiologist should be prepared for prolonged anesthesia risks such as deep vein thrombosis, hypothermia, sore ulcers, and others. In the postoperative period, almost all patients suffer from electrolyte disturbances, hypoalbuminemia, anemia, or thrombocytopenia, so laboratory tests should be performed and evaluated daily.

## AIM

This study aim is to retrospectively review and assess the 2 years of HIPEC treatment experience in the Hospital of Lithuanian University of Health Sciences, Kaunas Clinics.

## RESULTS

We analyzed 43 patients who were treated with CRS and HIPEC. There were more female patients (n=30, 69.77%) than men (n=13, 30.23%). The mean age was 53.42 (SD 10.99). To evaluate a patient's physical status and predict perioperative risk, the American Society of Anesthesiologists (ASA) class was given. In most cases, classification was III (n=34, 79.07%). The most common indication for this treatment among women was ovary cancer (n=11, 25.58%) and between men – gastric cancer (n=8, 18.60%). Usually during HIPEC treatment anesthesia lasts from 7 to 10 hours (n=26, 60.47%). In other cases, anesthesia lasts from 4 to 7 hours (n=17, 39.53%). In 41.86% of cases (n=18) multimodal therapy was performed under general anesthesia and in 25 cases (58.14%) under combined (general and epidural) anesthesia. CRS was performed for thirty-eight patients (88.37%). The most frequent adverse events in the postoperative period were electrolyte disturbance (n=39, 90.70%), hypoalbuminemia (n=29, 67.44%), and hematological problems such as anemia, or thrombocytopenia (n=14, 32.56%).