Morbidity and Mortality of 38 Consecutive Cytoreductive Surgeries with Hyperthermic Intraperitoneal Chemotherapy (HIPEC) in the Management of Peritoneal Surface Malignancies of Gastrointestinal Origin

Introduction:
Cytoreductive Surgery with Hyperthermic Intraperitoneal Chemotherapy continues to play an ever increasing role in the management of Peritoneal Surface Malignancies of gastrointestinal origin. This surgical approach has been associated with high morbidity and mortality by the medical community precluding some patients from being referred for surgical treatment of the localized peritoneal dissemination of their gastrointestinal cancer.

Materials and Methods:
From January 19, 2005 to February 9, 2006, 38 consecutive Cytoreductive Surgeries with Hyperthermic Intraperitoneal Chemotherapy were performed by a single surgeon at a single institution. A prospective recording of any postoperative complication was documented using the standard National Institutes of Health morbidity and mortality grading system. In addition, a number of clinical features were also analyzed. This included length of surgery, blood transfusion requirements, number of anastomoses, the presence or absence of an ostomy, Completeness of Cytoreduction Score, and hospital length of stay.

Results:
Overall Grade III and IV morbidity was 39% (15 of 38 patients). The most common grade III complications were postoperative anemia requiring a blood transfusion (24%), wound infection (8%), and pulmonary emboli (5%). There was 1 (2%) Grade IV complication. This patient required re-intubation and a temporary tracheostomy secondary to laryngeal edema.

Average operative time was 7 hours (4 to12). Average intraoperative blood transfusions were 0.7 units (0 to 5). Twenty-three patients (61%) had an anastomosis. Eight of these patients had 2 anastomoses. Nine patients (24%) had an ostomy. Seventy-four percent had a complete or near complete Cytoreductive Surgery. There were no operative deaths, anastomotic leaks, or re-operations. Average length of stay was 11 days (7 to 23).

Conclusion:
The surgical management of Peritoneal Surface Malignancies of gastrointestinal origin with Cytoreductive Surgery and Hyperthermic Intraperitoneal Chemotherapy (HIPEC) can be performed with comparable morbidity and mortality to other major gastrointestinal oncological surgical procedures.