Initiation of a Hyperthermic Intraperitoneal Chemotherapy (HIPEC) Program at Aurora Health Care

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Background:
The use of HIPEC along with radical debulking has been the standard treatment for peritoneal-based malignancies including appendiceal cancer (APPX), primary peritoneal cancer (PPC), peritoneal mesothelioma and peritoneal spread from colorectal (CRC), gastric (GA) and gynecologic malignancies. At Aurora Health Care, a HIPEC program was initiated by our multi-disciplinary (MDC) GI cancer group.

Purpose:
To review the initiation and implementation of a HIPEC program which was started at Aurora Health Care.

Methods:
Our protocol involves preoperative CT scan, colonoscopy, upper endoscopy and presentation at an MDC meeting. All patients (PTS) received preoperative chemotherapy (CTX). All PTS had diagnostic laparoscopy to determine resectability prior to debulking (same day). Laparotomy with complete debulking and resection of visually involved tissue was then performed. After temporary abdominal wall closure, HIPEC was performed for 90 minutes, CTX was flushed and drained, and anastomoses were created. PTS were kept on CTX precautions in the ICU for a minimum of 48 hours.

Results:
From 10/2016 to 6/2017, a total of 12 PTS aged 28-76 were referred for HIPEC. 10 PTS had HIPEC (90 minutes at 42°C) utilizing Mitomycin C (30 mg at time 0 and 10 mg at 60 minutes) after complete debulking of their tumor. The diagnoses included APPX (4), PPC (2), ovarian cancer (2) and CRC (2). 2 PTS did not undergo HIPEC due to extensive disease (GA and APPX). 9/10 patients had from 1-4 prior surgeries (mean 1.8). Peritoneal carcinomatosis index score ranged from 4-19. Resections included colon-7, spleen-3, diaphragm-3, SB-2, liver-2, stomach, GB, pancreas, abdominal wall and ovary 1 each. No PTS had anastomotic leakage. Length of stay ranged from 7-54 days (Mean 15.8, Median 10). All PTS had complete debulking, 3 received post-operative CTX and 2 PTS (APPX and CRC) have recurred. Post-operative complications have included prolonged ileus, recurrent small bowel obstruction and intra-abdominal collections and abscesses. There were no mortalities.

Tumors Amenable to HIPEC
- Pseudomyxoma Peritonei
- Appendiceal Cancer
- Colon Cancer
- Gastric Cancer
- Peritoneal Mesothelioma
- Sarcomas
- Gynecologic Cancers
- Primary Peritoneal Carcinoma
- Mucinous Tumors

Conclusion:
Cytoreduction and HIPEC are feasible in a large community-based health system. Our results are favorable and, after our initial evaluation, we plan to continue our program and are moving forward with an IRB-approved study looking at tissue and blood levels of Mitomycin C prior to, during and after HIPEC.