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II.f) Peritoneal mesothelioma and pseudomyxoma peritonei

D01
ADJUVANT DENDRITIC CELL BASED IMMUNOTHERAPY (DCBI) AFTER CYTOREDUCTIVE SURGERY (CRS) AND HYPERTHERMIC INTRAPERITONEAL CHEMOTHERAPY (HIPEC) FOR PERITONEAL MESOTHELIOMA: RATIONALE AND DESIGN OF THE MESOPEC STUDY

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Objectives

Malignant peritoneal mesothelioma (MPM) is an uncommon but aggressive neoplasm and has an association with asbestos exposure. MPM has low survival rates of approximately one year even after palliative surgery and/or systemic chemotherapy. Recent advances in treatment strategies focusing on cytoreductive surgery (CRS) and hyperthermic intraperitoneal chemotherapy (HIPEC) have resulted in improved median survival of 53 months and a 5-year survival of nearly 50%. However, recurrence rates are high. Current systemic chemotherapy in the adjuvant setting is of limited efficacy, while immunotherapy with dendritic cell based immunotherapy (DCBI) has yielded promising results in murine models with peritoneal mesothelioma and in patients with pleural mesothelioma.

The goal of the study is to assess the feasibility of administering DCBI after CRS-HIPEC in patients with MPM. Secondary objective of this study is to assess safety in patients with peritoneal mesothelioma who are treated with DCBI, which has already been proven in patients with pleural mesothelioma. Another secondary endpoint of this study is the determination of an immunological response against the tumor as result of the adjuvant therapy.

Methods

We will conduct an open-label single-center phase II study. The study population will consist of adult patients with a histologically confirmed diagnosis of MPM. 4 to 6 weeks before CRS-HIPEC a leukapheresis will be performed of which the monocytes will be used for differentiation to dendritic cells (DCs) using specific cytokines. These DCs will be pulsed with PheraLys, a tumor cell lysate derived from 5 well-characterized cell lines from patients with malignant mesothelioma. The tumor lysate-pulsed autologous DCs (MesoPher) are re-injected 8–10 weeks after surgery, 3 times every two weeks. After the third injection with MesoPher, revaccinations to boost the immune system are given after 3 and 6 months.

Results

Start of enrolment is planned for March 2018, and we expect to have enrolled al patients by March 2020. Results are expected in September 2020.

Conclusion

The MESOPEC study will determine if administering DBCI in patients with MPM after CRS-HIPEC is feasible and safe. This study could be the first step for new treatment strategies that will show prolonged survival with limited adverse effects in patients with MPM.

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D02
RECOMMENDATIONS FOR RADIOLOGICAL FOLLOW-UP BASED ON 775 PATIENTS TREATED BY CYTOREDUCTIVE SURGERY AND HIPEC FOR APPENDICEAL PSEUDOMYXOMA PERITONEI

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Objectives

Pseudomyxoma peritonei (PMP) is an uncommon malignancy, generally originating from a ruptured epithelial tumour of the appendix. Despite successful cytoreductive surgery (CRS) and hyperthermic intraperitoneal chemotherapy (HIPEC), some patients recur. Currently there are no guidelines on the methods, frequency and intensity of follow-up after treatment of appendiceal PMP by CRS and HIPEC.

Methods

Between 1994 and 2016, 1070 patients underwent surgery for a perforated epithelial tumour of the appendix, predominantly with PMP. Overall, 775/1070 (72%) had complete cytoreductive surgery (CCRS) and HIPEC. Histological classification was low grade PMP in 615/775 (79.4%), high grade in 134 (17.3%) and adenocarcinoma in 26 (3.4%). Overall survival (OS) and Disease Free Survival (DFS) were documented by annual CT and evaluated according to the Kaplan-Meier method.

Results

DFS and OS were significantly worse for high grade PMP, with the steepest decline in the first three years. Disease free survival curves, for both low and high grade PMP, levelled off at year 6 at approximately 60% and 20% respectively. Thereafter there were few recurrences in either group.

Conclusion

Annual CT of the abdomen and pelvis in the first six years appears to be adequate follow-up for low grade PMP. In high grade PMP, more frequent surveillance, during the first three years postoperatively, may detect recurrent disease earlier. From year 6 on, reduced frequency and intensity of follow-up is proposed, in both low and high grade PMP. This long-term follow-up in a large number of patients gives insight into tumour behaviour, and recurrence, after CCRS and HIPEC for PMP and guides intensity and frequency of follow up.

D03
CYTOREDUCTIVE SURGERY AND HYPERTHERMIC INTRAPERITONEAL CHEMOTHERAPY FOR PSEUDOMYXOMA PERITONEI OF APPENDICULAR AND EXTRA-APPENDICULAR ORIGIN

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Objectives

The prognostic value of the primary neoplasm responsible for pseudomyxoma peritonei (PMP) remains poorly studied. The aim of this study was to determine the prognosis for patients with extra-appendicular PMP (EA-PMP) treated optimally with complete cytoreductive surgery (CCRS) and hyperthermic intraperitoneal chemotherapy (HIPEC).

Methods

All patients treated for PMP with CCRS and HIPEC between 1994 and 2016 were selected retrospectively from the French National Network of Peritoneal Surface Malignancies (RENAPE) multicentre database. Patients with EA-PMP all had a pathologically confirmed non-neoplastic appendix. Patients with extra-appendicular mucinous tumours or unidentified primary tumours but a healthy appendix were classified as having EA-PMP; all other patients were placed in the appendicular PMP (A-PMP) group. Patients with EA-PMP were matched in a 1:4 ratio with patients treated for A-PMP, based on a propensity score.

Results

Some 726 patients were identified, of which 61 (EA-PMP group) were matched with 244 patients (A-PMP group). The origins of primary tumours in the EA-PMP group included the ovary (n = 45 patients), colon (n = 4), urachus (n = 4), small bowel (n = 1), pancreas (n = 1) and unknown (n = 6). The median peritoneal carcinomatosis index was comparable in EA-PMP and A-PMP groups (15·5 versus 18 respectively; p = 0·315). In-hospital mortality (3% versus 2·9%; p = 1) and major morbidity 26% versus 25%; p = 0·869) were also similar between the two groups. Median follow-up was 66·9 months. The 5-year overall survival rate was 87·8% (95% CI (83·2 to 92·5)) in the A-PMP group and 87% (95% CI (77 to 96)) per cent in the EA-PMP group, logrank p = 0.59. The 5-year disease-free survival rate was 66 % (95% CI (58·7 to 73·4)) and 70 % (95% CI (53 to 83)) respectively, logrank p = 0.475.

Conclusion

Overall and disease-free survival following treatment with CCRS and HIPEC is similar in patients with pseudomyxoma peritonei of appendicular or extra-appendicular origin. Patients suffering from EA-PMP and who are otherwise healthy should be offered this combined treatment modality.

D04
IMPACT OF PREVIOUS MAJOR GYNECOLOGICAL SURGICAL PROCEDURES ON SHORT TERM AND ONCOLOGICAL OUTCOMES IN PATIENTS TREATED WITH CRS AND HIPEC

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Objectives

CRS/HIPEC is a complex procedure to treat Peritoneal Surface Malignancy (PSM), becoming even more challenging after previous surgical manipulation. Female patients affected by PSM, frequently underwent heavy but not radical surgical procedure to define the primary histology and stage the disease extension, even in case of unclear evidence of a gynaecological neoplasm. We attempted to assess the impact of this aggressive first approach on surgical and prognostic outcome of patients undergoing CRS/HIPEC.

Methods

Retrospective analysis of a prospective database of female patients affected by non-gynaecological PSM treated with CRS/HIPEC was reviewed. Prior surgical approach was classified as follow: 1) previous limited gynaecological surgery (PLGS) consisting on Video laparoscopy and biopsy and 2) previous major gynaecological surgery (PMGS) consisting on histerectomy, bilateral salpingo-ooforectomy, infracolic omentectomy and peritoneal sampling, so called "ovarian staging". The 2 groups were analysed concerning risk factors for severe morbidity (NCI-CTCAEv.3). Moreover, impact of PMGS/PLGS on operation time, blood transfusion and in hospital stay was evaluated

Results

A total of 298 patients were collected. The median follow-up was 69 months. Hundred fifty three patients received PMGS. Surprisingly, 69 of them had preoperative CA125/CEA ratio < 25 (leading for non Gy neoplasm). G3-5 morbidity was found on 105 (35,2%) patients had; among these, 22 (21%) were urinary tract (UT) complications. Independent risk factors for G3-5 morbidity were age > 55 years (OR:2.3; $p = 0.009$) and number of anastomosis (OR:2.6; $p = 0.002$). PMGS correlated to longer length of operation (U test, $p = 0.035$) and higher incidence of major UT complications ($p < 0.001$).

Concerning the oncological outcomes, cumulative incidence of local relapse at 5 and 10 years was significantly higher in PMGS group, with 0.41 and 0.58 vs. 0.27 and 0.29 ($p < 0.05$)

Conclusion

Preoperative workup of patients with suspicious ovarian cancer should systematically evaluate CA125/CEA ratio, and heavy surgical procedures must be considered with caution in female patients with PSM and undefined histology.

PMSG in patients affected by PSM significantly increases postoperative UT complications. In this subset preventive positioning of ureteral stent, careful dissection of pelvic plains and strict postoperative surveillance of UT injuries are necessary.

Since PGSM is related to higher local relapse ratio, a more intense oncological follow-up is recommended

D05
ABDOMINAL MESOTHELIOMA IN A SWEDISH NATIONAL POPULATION-BASED STUDY

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Objectives

Abdominal mesothelioma has been treated with cytoreductive surgery (CRS) and hyperthermic intraperitoneal chemotherapy (HIPEC) on a national level since 2011 in four Swedish HIPEC centers – Uppsala, Stockholm, Malmoe, Gothenburg. The aim of this study is to report, from the Swedish national HIPEC registry, the survival and morbidity of all patients in Sweden undergoing CRS and HIPEC as well as investigate whether the survival of abdominal mesothelioma has increased since this treatment was nationalized.

Methods

Study data came from two registries – the Swedish national HIPEC registry, and the Swedish national cancer registry. First, all patients with abdominal mesothelioma being accepted for CRS and HIPEC treatment in Sweden were retrieved from the HIPEC registry from 2011 to March of 2018. Preoperative, operative, postoperative, and date of death/recurrence variables were collected for the HIPEC registry cohort. Second, all patients receiving a malignant abdominal mesothelioma diagnosis (cystic not available in the cancer registry) were collected from two separate 5-year time-periods 1999-2003 and 2011-2015. Gender, age and survival were available from the registry.

Results

32 patients were accepted for CRS/HIPEC treatment. Four were only open/close cases. Median overall survival (OS) was not yet reached. 84% 2-year survival rate including all 32 cases, 78% excluding cystic cases. 56% grade II-IV Clavien-Dindo adverse events occurred (22% grade III–IV) with no mortality. 102 cases were retrieved from the cancer registry – 40 cases 1999–2003 and 62 cases 2011–2015 with 18% receiving CRS/HIPEC treatment in the latter period. Median OS increased between the two periods from 7 to 15 months ($p = 0.03$) with five-year survival increasing from 14 to 29%.

Conclusion

Abdominal mesothelioma undergoing CRS/HIPEC treatment has a good long-term survival even when excluding cystic cases. It can be concluded that the survival as increased between the two time periods from the cancer registry. However, it is unclear how much is due to improved systemic therapies or due to CRS/HIPEC.

D06
INTERIM ANALYSIS OF A PROSPECTIVE, RANDOMISED PHASE 2 STUDY IN PATIENTS UNDERGOING CYTOREDUCTIVE SURGERY FOR PSEUDOMYXOMA PERITONEI: HAEMOSTATIC EFFICACY AND SAFETY OF FIBRINOGEN CONCENTRATE AND CRYOPRECIPITATE

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Objectives

Pseudomyxoma peritonei (PMP) is treated by cytoreductive surgery (CRS) with hyperthermic intraperitoneal chemotherapy (Sugarbaker procedure). Maintaining adequate plasma fibrinogen concentration during surgery may help to control bleeding. We present interim results from FORMA-05, a study comparing the haemostatic efficacy and safety of fibrinogen concentrate vs cryoprecipitate.

Methods

This prospective, randomised, single-centre, controlled phase 2 study compares fibrinogen concentrate (*Fibryga/Octafibrin*; Octapharma) with cryoprecipitate in patients with acquired fibrinogen deficiency during CRS. Patients requiring intraoperative fibrinogen supplementation received *Fibryga* (4 g) or cryoprecipitate (10 U), repeated as needed. The primary endpoint was a composite of intraoperative and postoperative efficacy, graded on an objective 4-point scale and adjudicated by an Independent Data Monitoring and Endpoint Adjudication Committee.

Results

23 patients were included in the per protocol analysis: 10 received *Fibryga* and 13 received cryoprecipitate. 100% of subjects in both groups (95% CIs of 69.2–100% for *Fibryga* and 75.3–100% for cryoprecipitate) were adjudicated as having achieved 'treatment success'. Greater mean increases in plasma fibrinogen concentration (0.7 vs 0.3 g/L; p = 0.0127) and FIBTEM A20 (3.1 vs 0.6 mm; p = 0.0544) were obtained with intraoperative administration of *Fibryga* than with cryoprecipitate. Therapy could be administered 0.5 hours earlier in the *Fibryga* group. There were no significant differences in transfusion: median 1 unit RBC intraoperatively and 0 units RBC 24 hours postoperatively in each group. 29 adverse events (AEs) and 2 serious AEs occurred in the *Fibryga* group, vs. 44 AEs and 9 SAEs (inc. 4 thromboembolic events) in the cryoprecipitate group.

Conclusion

In this analysis, *Fibryga* was efficacious and had a favourable safety profile in the treatment of bleeding related to acquired fibrinogen deficiency in patients undergoing CRS for PMP.

D07
TREATMENT OPTIONS OF MALIGNANT PERITONEAL MESOTHELIOMA IN FINLAND DURING YEARS 2000 - 2012

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Objectives

Malignant peritoneal mesothelioma (MPeM) is a rare cancer with an incidence of 0, 2–3 cases per million per year, and in Finland 0,74 cases per million per year. Among all mesotheliomas, the portion of cases of peritoneal origin is 10–30%. Different treatment methods of MPeM have not been clarified in Northern Europe before.

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Methods

This was a retrospective study clarifying different ways of treatment and their effect to the survival on patients diagnosed with MPeM in Finland between dates 1st of January 2000 and 31st of December 2012. The data consisted of cancer registry and death notices of malignant mesothelioma patients in the FCR and Statistics Finland and the Finnish Population Registry. Information about insurance decisions due to occupational diseases was collected from Finnish Workers' Compensation Center. In addition, all patients' files were read to clarify the specific way of treatment.

Results

Altogether 90 patients were diagnosed with MPeM during the study period, of which 50 (55,6%) were treated. Different ways of treatment were chemotherapy (24/90, median survival 9 months), radiation therapy (5/90, median survival 2 months), combination of chemo and radiation (6/90, median survival 8 months), hyperthermic intraperitoneal chemotherapy (HIPEC) combined with cytoreductive surgery (CRS) (7/90, median survival 57 months), radical surgery combined with chemo and radiation (2/90, median survival 2 months), and palliative surgery (6/90, median survival 1 month). There was no connection between sex and given treatment ($p = 0.095$). HIPEC+CRS was shown to be more effective compared to radiation ($p = 0.008$), surgery-chemo+radiation ($p = 0.039$), palliative surgery ($p = 0.010$) or no treatment ($p = 0.035$), as well as chemotherapy more effective compared to palliative surgery ($p = 0.001$).

Conclusion

Probably due to infrequency of MPeM, huge variation in the treatment of MPeM was found. HIPEC combined with CRS seems to be the most effective way of treatment of MPeM. Due to the poor prognosis of the disease and the small amount of MPeM patients in Finland, treatment of MPeM should be centralized into one or few centers in Finland.

D08
A REVIEW ON DEBULKING SURGERY FOR UNRESECTABLE PSEUDOMYXOMA PERITONEI – TO DO OR NOT TO DO?

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Objectives

Pseudomyxoma peritonei (PMP) is characterized by accumulation of mucin in the peritoneal cavity from rupture of mucin- secreting neoplasms, most commonly the appendix. The incidence of this condition is estimated to be 1–2 per million per year and the gold standard of treatment is cytoreductive surgery and hyperthermic intraperitoneal chemotherapy (CRS and HIPEC). In patients where this is not feasible due to high tumour burden, there is increased morbidity from symptomatic abdominal distension associated with mechanical and functional bowel obstruction. In this study, we review the available literature on the role of debulking surgery in patients with unresectable PMP.

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Methods

A search was done using PubMed and Cochrane Library on unresectable PMP and debulking surgery from January 2008 onwards. Papers describing unresectable PMP treated with debulking surgery were included. Data on indications for and on procedures performed, peri-operative morbidity and mortality rates, and survival were collected and analyzed.

Results

Four retrospective studies were identified. A total of 311 patients underwent debulking surgery for unresectable PMP. All patients were initially planned for CRS but were found to have extensive disease intra- operatively, with majority having PCI scores of more than 20. In these patients, attempt at reduction of tumour burden maximally was undertaken, with the most commonly performed procedure being omentectomy followed by appendectomy and right hemicolectomy. Morbidity was graded according to the Clavien-Dindo score, and only 7–23% of patients undergoing debulking surgery were reported to have a score greater than III. Longer symptom- free duration post debulking surgery (23.6 vs 18.9 months, $p = 0.81$) was reported. The median OS was 36 months for patients who underwent debulking surgery, with 5-year OS of 30–46%.

Conclusion

Patients planned for CRS and HIPEC for treatment of PMP, who are found to have extensive disease intra-operatively should be considered for maximal debulking surgery, which may result in a longer symptom-free duration with acceptable complication rates. There are currently only a few studies, with small patient numbers investigating this, but overall results are supportive of maximal debulking. Quality of life studies should be conducted to further elucidate the benefit of debulking surgery in PMP.

D09
MODE OF PRESENTATION IN 1070 PATIENTS WITH PERFORATED EPITHELIAL APPENDICEAL TUMOURS TREATED IN A PERITONEAL MALIGNANCY UNIT

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Objectives

Perforated epithelial appendiceal tumours are uncommon, with the majority manifesting as Pseudomyxoma Peritonei (PMP). PMP is rare, almost always of appendiceal origin, often asymptomatic in the early stages and presents in a variety of ways relevant to all abdominal surgeons. The aim was to report the mode of clinical presentation of PMP of appendiceal origin in a large series of patients treated in a UK National Peritoneal Malignancy Unit.

Methods

A retrospective analysis of a prospective database was conducted of all consecutive patients with ‘PMP of appendiceal origin’ undergoing surgery between (March 1994 – December 2016). Patient mode of presentation was classified into 7 groups based on the most common presenting feature. These were 'Probable PMP based on abnormality on cross-sectional imaging including image guided biopsy’,

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'histological diagnosis at abdominal surgery for presumed appendicitis', 'abnormal imaging (other cause suspected) and operative finding of PMP', 'PMP at diagnostic laparoscopy', 'pelvic/ ovarian mass', 'new-onset hernia' and 'miscellaneous'.

Results

Overall 1070 patients with PMP of appendiceal origin underwent surgery (Female 61%: Male 39%); median age 57 (inter-quartile range (IQR): 47–65). Mode of initial clinical presentation was:- abnormality on cross-sectional imaging and/or (image guided) biopsy in 324/1070 (30.3%), histological diagnosis at emergency abdominal surgery for presumed appendicitis in 203/1070 (19%), abnormal imaging (other cause suspected) with operative finding of PMP in 180/1070 (16.8%). In females, 124/651 (19.2%) presented with a pelvic/ ovarian mass. Overall, 106/1070 (9.9%) presented with a new onset hernia, 83/1070 (7.7%) had PMP at diagnostic laparoscopy, and 32/1070 (3%) had a 'miscellaneous' presentation.

Overall 775/1070 (72.4%) had Complete cytoreductive surgery (CCRS); 269/1070 (25.2%) had Maximal tumour debulking (MTD). The 10-year disease-free and overall survival in the CCRS group was 52% and 63.5% respectively.

Conclusion

Perforated appendiceal tumours present in a variety of ways but predominantly at cross-sectional imaging or co-incidentally at laparoscopy or laparotomy. All abdominal surgeons will encounter cases, often unexpectedly, and recognition and referral to a specialised unit results in excellent outcomes in most cases.

D09
CRS AND HIPEC IN MUCINOUS CYSTOADENOCARCINOMA OF THE URACUS

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Objectives

PMP is usually secondary to appendiceal and ovarian mucinous neoplasms, but another unusual origins such as colorectum, fallopian tube, pancreas, small bowel, gallbladder, lung and breast are also reported. PMP arising from urachal tumors is extremely rare, and very few cases of mucinous cystoadenoma of the urachus have been reported in literature date. Management of urachus tumors with PMP associated should be based on aggressive locorregional therapy with cytoreductive surgery (CRS) and hyperthermic intraperitoneal chemotherapy (HIPEC), similar to PMP arising from other origins. We present a PMP due to mucinous cystoadenocarcinoma of the urachus presenting as an inguinal hernia treated by CRS and HIPEC.

Methods

A 76-year-old man was admitted to our centre with inguinal hernia. During surgery, a mucinous material was found into the hernia. The histological examination revealed an pseudomixoma peritoneal. A computed tomography (CT) scan of the abdomen, revealed a big lobulated cystic mass with internal calcifications, in the abdominal cavity. It was located in the dome of the bladder, and measuring 9 cm. The radiological initial differential diagnosis was a mucinous cystoadenoma/cystoadenocarcinoma of the urachus

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Results

We performed a midline laparotomy and a big mass arises from urachus was found. This mass was located in the superior wall of the bladder. No ascitis, mucinous material or peritoneal metastasis was found. We performed a cytoreductive surgery including the dome of the bladder, anterior abdominal peritonectomy, great omentectomy and apendicectomy. Hyperthermic intraperitoneal chemotherapy was performed by CO2-closed-abdomen technique, used by our group in peritoneal carcinomatosis from ovarian and colon cancer, using Mitomycin C (35 mg/m2) during 60 minutes, at 42 degrees. There were no surgical or medical complications during the procedure, and patient was admitted to Intensive Care Unit following our protocol, for 72 hours. The pathological findings were cystoadenocarcinoma of the urachus.

Conclusion

PMP arising from urachus comes from neoplastic cells with development of intestinal-type mucinous neoplasm. It shares a similar pathophysiology as PMP from appendix. CRS including total urethrectomy, partial cystectomy, and peritonectomy plus HIPEC can be considered as a new option of treatment for PMP originating from urachus

D10
CA 19-9 TO PERITONEAL CARCINOMATOSIS INDEX (PCI) RATIO IS PROGNOSTIC IN PATIENTS WITH EPITHELIAL APPENDICEAL MUCINOUS NEOPLASMS AND PERITONEAL DISSEMINATION UNDERGOING CYTOREDUCTION SURGERY AND INTRAPERITONEAL CHEMOTHERAPY

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Objectives

Serum tumour levels have been shown to be prognostic in patients with epithelial appendiceal mucinous neoplasms with peritoneal dissemination (pseudomyxoma peritonei (PMP)). A singular index which incorporates both tumour activity (as depicted by serum tumour marker levels) and tumour volume (as depicted by peritoneal carcinomatosis index (PCI)), may give a more precise surrogate of tumour biological behaviour. The prognostic implication of this index has not yet been reported.

Methods

A retrospective cohort study of all patients with PMP managed from 1996 to 2016 with cytoreductive surgery (CRS) and intraperitoneal chemotherapy (IPC) was performed by analysing the survival effect of the ratio of preoperative serum CEA, CA19.9 and CA125 to PCI.

Results

Three hundred and eighty-six patients were included. In patients with low-grade PMP, elevated CA19-9/ PCI ratio resulted in poorer median overall survival times (104 months vs NR, 95%CI 83 – NR, log-rank $p < 0.001$) and was an independent predictor of reduced overall survival on multivariable analysis (adjusted HR 5.60, 95%CI 1.60–19.68, $p = 0.007$). In patients with high-grade PMP, no statistically significant difference in survival was recognised. Recurrence free survival times were not significantly affected by serum tumour marker levels or ratios.

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Conclusion

CA19-9/ PCI ratio is an independent prognostic factor for overall survival in patients with low-grade PMP undergoing CRS and IPC. By accounting for both tumour activity and tumour volume simultaneously, this novel index behaves as a surrogate of tumour biology and provides a useful adjunct for decisions regarding treatment allocation in this patient group.

D11

REPEAT CYTOREDUCTIVE SURGERY-HYPERTHERMIC INTRAPERITONEAL CHEMOPERFUSION IS FEASIBLE AND OFFERS SURVIVAL BENFIT IN SELECT PATIENTS WITH PERITONEAL METASTASES

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Objectives

We hypothesized that repeat cytoreductive surgery-hyperthermic intraperitoneal chemoperfusion (CRS-HIPEC) for peritoneal metastases (PM) may be associated with suboptimal resection, more frequent postoperative complications, and worse oncologic outcomes.

Methods

Using a prospectively maintained database, we compared clinicopathologic, perioperative, and oncologic outcome data in patients undergoing single or multiple CRS-HIPEC procedures between 2002–2017. Kaplan-Meier method was used to estimate survival. Multivariate analyses identified associations with perioperative and oncologic outcomes.

Results

Of the 1294 patients undergoing CRS-HIPEC procedures at our institution, only one CRS-HIPEC procedure (single HIPEC cohort) was performed in 1169 patients (90.3%), while 125 patients (9.7%) underwent a second CRS-HIPEC procedure (repeat HIPEC cohort). Progression-free survival (PFS) following the second CRS-HIPEC procedure was negatively impacted by shorter PFS following the first CRS-HIPEC procedure, independent of other significant variables related to the second procedure including completeness of cytoreduction and postoperative complications. The gap-time between the first and second CRS-HIPEC procedures was not a predictor of PFS after the second CRS-HIPEC procedure. Of the 1440 CRS-HIPEC procedures at our institution, a first CRS-HIPEC procedure was performed in 1294 patients (89.9%), while subsequent second, third and fourth CRS-HIPEC procedures were performed in 125 patients (8.7%), 18 patients (1.3%), and 3 patients (0.2%), respectively. Patients undergoing multiple CRS-HIPEC procedures were not at higher risk for suboptimal resection or postoperative complications and demonstrated equivalent PFS following each successive procedure compared to the first procedure.

Conclusion

Repeat CRS-HIPEC procedures for PM were not associated with suboptimal perioperative and oncologic outcomes. Our data confirmed our ability to appropriately select patients for repeat CRS-HIPEC procedures.

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D12
DIFFUSE MALIGNANT PERITONEAL MESOTHELIOMA - SURVIVAL WITH COMPLETE CYTOREDUCTIVE SURGERY FOLLOWED BY HYPERTHERMIC INTRAPERITONEAL CHEMOTHERAPY (HIPEC)

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Objectives

Backround

Prognosis of diffuse malignant peritoneal mesothelioma (DMPM) has been recently improved by cytoreductive surgery and hyperthermic intraperitoneal chemotherapy (HIPEC). As with other peritoneal surface malignancies, the survival benefit is maximum when a complete surgical cytoreduction is achieved, but there is still a lack of understanding of additional factors predicting long-term outcome. We attempted to investigate outcome and prognostic factors in patients with DMPM treated by complete cytoreduction and HIPEC.

Methods

We selected patients with DMPM undergoing complete cytoreduction (residual tumour nodules $\leqslant$2.5 mm) and closed-abdomen HIPEC with mitomycin-C. The analysis occurred retrospectively in terms of morbidity and mortality. The patient-, tumour- and treatment-related variables were assessed by multivariate analysis with overall survival (OS) and progression-free (PFS) survival.

Results

The operative mortality and morbidity in our series was very low. One patient died because of recurrent tumour after 6 months. Prolonged intensive care was needed for one other patient. The hospital stay was extended only in one case. The apportionment of the individual complications will be discussed at the congress.

Conclusions

Comparing the published data with our approach, it appeared that there is no significant difference of the total hospitalisation time as well as time needed at intensive care. The documented morbidity and mortality is assimilable to the results of other studies. With regard to long-term survival rates and progression-free survival, it can be detected an advantage of CRC and HIPEC in our relatively small group of patients compared with the published specifications.

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D13
PSEUDOMYXOMA PERITONEI FROM OVARIAN ORIGIN. REPORT ON 18 CASES FROM FRENCH COLLABORATIVE NETWORK RENAPE

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Objectives

Pseudomyxoma peritonei of ovarian origin (OPMP) accounts for approximately 3% of all pseudomyxomas peritonei (PMP). Accurate diagnosis of OPMP is based on complete removal of the ovarian tumour, appendectomy and a comprehensive histologic examination of the specimens through a thorough sampling and immunochemistry. As OPMP has a mucinous nature and similar clinic behavior to PMP of appendiceal origin, we hypothesize that cytoreductive surgery (CRS) followed by HIPEC could be successfully used as the best strategy. The aim of our study is to evaluate OPMP cases with an emphasis on treatment with CRS and HIPEC.

Methods

We conducted a retrospective research of OPMP cases archived in the French collaborative group RENAPE database. We defined OPMP as an ovarian tumor with presence of peritoneal cellular or acellular mucinous deposits. To avoid confusion with metastatic appendiceal tumor to the ovary negative appendix status was required. Histopathological characteristics of the ovarian tumors selected this way were statistically analyzed.

Results

Eighteen cases of OPMP located at 8 different oncologic centers were treated between 2000 and 2014 by CRS+HIPEC. The median age was 51 years (18–71 range). All patients had a unilateral primary ovarian tumor whose size ranged from 7,5 to 30 cm. CRS was complete for 11 patients (CC-0), optimal for 5 patients (CC-1) and incomplete (CC-2) for 1 patient. CC score was missing for 1 patient. The most common drug used for HIPEC was oxaliplatin (12 patients).

The median follow-up was 5 years. Overall survival at 1, 3 and 5 years were 100%, 91,67% and 78,57%, respectively. One patient was lost of follow-up. For the remaining 15 patients treated with CC-0 and CC-1, DFS at 1, 3 and 5 years was 100%, 91,67% and 91,67%, respectively. Three patients experienced postoperative complications, and no postoperative death occurred.

Conclusion

OPMP is a distinct and very rare medical entity of advanced mucinous tumour. Poor survival of patients diagnosed with advanced mucinous ovarian tumour may consider peritoneal approach as a viable alternative to a systemic chemotherapy. Our results suggest CRS and HIPEC as a valuable option in the management of OPMP. A larger cohort of patients is needed to confirm our findings.

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D14
EARLY OUTCOMES FROM A NATIONAL PERITONEAL MESOTHELIOMA MULTI DISCIPLINARY TEAM (NPMMDT) MEETING IN THE UNITED KINGDOM (UK) AND IRELAND

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Objectives

Malignant peritoneal mesothelioma (MPM) is a rare, and generally fatal primary peritoneal neoplasm with increasing incidence worldwide. Many patients present with advanced disease and prognosis is poor with most dying within a year of diagnosis. Median survival is 26 months following systemic chemotherapy. Recently cytoreductive surgery (CRS) with hyperthermic intraperitoneal chemotherapy (HIPEC) has shown promise as a treatment strategy. Appropriate patient selection for surgery is essential. A National Mesothelioma MDT was established in the United Kingdom and Ireland in March 2016 to discuss optimal treatment for patients with MPM and record outcomes with the aim of providing evidence to support National Funding of a peritoneal mesothelioma service similar to the existing UK and Ireland pseudomyxoma peritonei service.

Methods

From March 2016 to October 2017 all patients with peritoneal mesothelioma referred to Peritoneal malignancy centres in Basingstoke, Good Hope Hospital Birmingham, the Christie Hospital Manchester and Mater Misercordiae in Dublin were discussed at the National Peritoneal Mesothelioma MDT (NPMMDT) via video conference.

Results

In total, 91 patients (46 female: 45 male) with a mean age of 57 ± 16 years were reviewed. Systemic chemotherapy was recommended in 28 and 11 underwent CRS and HIPEC. Median survival from time of review at the NPMMDT was 5 months. Of those who underwent surgery the mean Peritoneal Cancer Index was 16, and the mean operative time was 424 minutes with mean blood loss of 960 ml. The mean ICU and hospital stay were 2 and 20 days respectively. Complete cytoreduction was achieved in all patients (CC0: n = 4; CC1: n = 7), overall morbidity was 45%. No complication required reoperation. The median follow-up was 5.4 months. One patient died from disease 10.5 months after CRS and HIPEC.

Conclusion

Although most patients with peritoneal mesothelioma are not suitable for CRS and HIPEC at presentation, good outcomes can be achieved in a proportion of carefully selected patients through a National multidisciplinary team process. Systemic chemotherapy is of limited benefit but is the only treatment option for the majority of patients.

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D15
FACTORS AFFECTING EARLY RECURRENCE OF LOW-GRADE APPENDICEAL MUCINOUS NEOPLASMS FOLLOWING CYTOREDUCTIVE SURGERY AND HYPERTHERMIC INTRAPERITONEAL CHEMOTHERAPY (CRS/HIPEC)

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Objectives

To investigate risk factors for treatment failure (defined as recurrence within 12 months) of cytoreductive surgery (CRS) and hyperthermic intraperitoneal chemotherapy (HIPEC) for low-grade appendiceal mucinous neoplasms (LAMN).

Methods

All patients treated for LAMN from 1996–2017 were identified from the St George Hospital CRS/HIPEC database. Patients who developed recurrence were stratified into early (<12 months of surgery) and late recurrence (>=12 months). Baseline demographic data, operative details, and post-operative complications were reviewed and compared.

Results

285 patients were treated achieving a median overall survival (OS) of 104 months (5- & 10-year OS rates of 81% & 60%). Of these, 66 (23.1%) patients had a recurrence with 32 (48.5%) having early, and 34 (51.5%) having a late recurrence. The overall median recurrence free survival (RFS) time was 94 months (5 & 10 year RFS rates of 57% & 46%). PCI was not significantly different between the two groups (29 vs 26, $p = 0.18$). Risk factors for early recurrence included female sex ($p = 0.0001$), higher preoperative serum CA19-9 ($p = 0.01$), not having early postoperative intraperitoneal chemotherapy (EPIC; $p = 0.039$), patients receiving more than 8 units of PRBC during surgery ($p = 0.004$), and postoperative morbidities grade III/IV ($p = 0.02$).

Conclusion

Female sex and high CA19-9 are risk factors for LAMN treatment failure. Pre-operative patient optimization to reduce the need of blood transfusions as well as the morbidity of the procedure might contribute to lower recurrences, along with integrating EPIC into the management plan.

D16
ADDRESSING PSYCHOLOGICAL DISTRESS IN A SURGICAL SETTING

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Objectives

Peritoneal Malignancy patients undergo treatments and procedures that save their lives but also exposes them to the risk factors most associated with developing serious psychological disorders such as PTSD, Depression, Anxiety, cognitive impairment [O'Donnell et al., 2010, Wade et al., 2012, Davydow et al., 2013]. Follow up studies show many patients continue to be traumatised at 3, 6 and 12 months [Wade et al., 2013]. A Senior Clinical Psychologist was recruited to the Unit in November 2016. The remit: to work with Senior Management and MDT to address the strongest modifiable risk factors contributing to development of psychological disorder.

Methods

Following internal scoping and reviews of national best practice the Unit prioritised: early detection of risk, staff confidence, consistency of processes. Initiatives to address these were developed.

Results

All routine peritoneal malignancy patients now receive pre-op psychological screening. Initial audit indicates screening 100% accurate in detecting high-risk patients. Psychologist's interpretation makes process more sensitive than paper-based scores alone.

Standardised process for detection and non-pharmacological management of Delirium now at every bedside. Anecdotal reports suggest reduction in sedation use. Quantitative review to be undertaken.

A continuous training programme on Distress and Delirium now in place 80% participants rated training extremely useful; 20% very useful. 100% found training applicable to day-to-day work.

Conclusion

Embedding psychological thinking and interventions into a surgical unit has already resulted in improved detection of risk and up-skilled staff. It may also have contributed to reduced use of sedatives. Other initiatives under way.

D17

DOES THE LEVEL OF CARCINOEMBRYONIC ANTIGEN CORRELATE TO THE PERITONEAL CARCINOMATOSIS INDEX AND PREDICT POSTOPERATIVE COMPLICATIONS IN PATIENTS WITH PSEUDOMYXOMA PERITONEI?

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Objectives

Pseudomyxoma peritonei (PMP) is a rare condition but often requires extensive surgical treatment in combination with HIPEC since the extent of the disease is often locally widespread at the time of diagnosis.

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Complication rate is high. The primary aims were to examine if the level of preoperative CEA in patients with PMP correlates to the intraoperative PCI score and if PCI can predict postoperative complications. A secondary aim was an audit of early complications, late complications, relapse and death after surgery of PMP.

Methods

This is a prospective cohort study with retrospectively collected data of patients undergoing surgery for PMP at Karolinska University Hospital between Sep 2012 and Dec 2016.. Inclusion criteria was histopathology of low/high grade mucinous adenomas of the appendix and mucin in the abdomen. Patient with adenocarcinoma of the appendix were excluded. All patients have been treated in accordance with a standard PMP treatment protocol, aiming for complete macroscopic tumor removal (complete CRS) combined with intraoperative HIPEC. Patients with an open and close procedure were excluded. Medical records of all patients were collected and scrutinized following a standardized protocol. Information collected included early complications (within 30 days from surgery), late complications (after minimum 6 weeks from surgery), relapse and death. Complication was determined by the Clavien-Dindo score. The follow up time was at least 8 months post-surgery and HIPEC, from date of surgery until 1 September 2017.

Results

The study included a total of 46 patients with a median follow-up time of 26.8 months. A significant association was found (P = 0.0036) for CEA value and high PCI score (>20). There was no correlation found between the level of CEA and the Clavien-Dindo score. Nausea occurred as the most dominating, early complication in 60.9% of the patients and tiredness/fatigue was the most prevalent late complication (41.3%). Five patients got a relapse. The mortality rate was 1/46 but the cause of death was other reason.

Conclusion

An association was found in patients with PMP between the preoperative CEA value and the intraoperative PCI in that a higher preoperative value of CEA implies a higher intraoperative PCI score. No correlation to complication was found. The rate of complication was high. A good rehabilitation program is of great value for patients with PMP.

D18

WELL DIFFERENTIATED PAPILLARY PERITONEAL MESOTHELIOMA- OUTCOME ANALYSIS OF TO THE PSOGI INTERNATIONAL REGISTRY

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Objectives

Well differentiated papillary peritoneal mesothelioma (WDPPM) is a rare neoplastic entity that despite its benign histological characteristics bears a significant chance of recurrence and malignant transformation. We

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analyzed the PSOGI registry to examine outcomes after cytoreductive surgery (CRS) and hyperthermic intraperitoneal chemotherapy (HIPEC).

Methods

We retrospectively analyzed the PSOGI database for outcomes of WDPPM cases. Descriptive statistics was used to describe clinical and procedure characteristics. Disease free survival (DFS) was analyzed by Kaplan-Meyer curves and log-rank test.

Results

We analyzed 56 patients that were diagnosed with WDPPM, 40 (71%) of which were females, with a mean age of 44.5 ± 12.8 yrs. Peritoneal carcinomatosis index (PCI) was 11.5 ± 8.2. Major complications occurred in 11 (20%) patients. We restricted outcome analysis to 44 patients, with complete information regarding the surgical treatment. Thirty-eight patients received CRS and HIPEC while 6 were treated with CRS alone. Mean DFS of the whole cohort was 153.8 ± 16 months. High PCI (>12), incomplete cytoreduction and major complications showed a inferior DFS which was non-statistically significant, probably due to cohort size. Prior chemotherapy (CT), administered in 9 patients, was associated with shorter DFS (47.3 ± 16.8 vs. 174.9 ± 15.6.7, $p < 0.001$, respectively). Interestingly, complete parietal peritonectomy showed 100% DFS, whereas on demand peritonectomy had 60% ($p = 0.12$).

Conclusion

Patients with WDPPM can achieve long term remission with CRS and HIPEC. Prior CT is probably associated with recurrent disease in the PSOGI database. Data support early intervention to achieve complete cytoreduction. Although the results of total parietal peritonectomy are encouraging, its real impact should be defined through further studies.

D19

REDO CYTOREDUCTIVE SURGERY (CRS) WITH HEATED INTRAPERITONEAL CHEMOTHERAPY (HIPEC) – A SINGLE UK SPECIALIST CENTRE EXPERIENCE

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Objectives

High volume centres have demonstrated good clinical outcomes with low morbidity and mortality following CRS & HIPEC for Pseudomyxoma peritonei (PMP), appendiceal adenocarcinoma & peritoneal metastases from colorectal cancer (CRPM). However the management of peritoneal recurrence in this group is not known. In this study, we describe the experience from a national peritoneal tumour centre on repeat CRS & HIPEC in this group with peritoneal recurrence.

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Methods

Retrospective analysis of a prospective database (2001–2017) of 946 patients identified 44 patients undergoing one or more repeat CRS & HIPEC procedures, their perioperative outcomes and survival were analysed. Kaplan Meier method used for calculating Disease free survival (DFS) and overall survival (OS).

Results

Thirty patients with PMP underwent repeat CRS & HIPEC. 8 patients with recurrent disease underwent a further repeat procedure. Two patients died due to disease progression at 43 and 47 months after one repeat procedure.

Eight patients with appendiceal cancer and six patients of colorectal cancer with only intraperitoneal recurrence underwent one repeat procedure. One CRPM patient had a second repeat procedure and is presently on chemotherapy. Five patients of appendiceal cancer and all patients with CRPM are alive at the end of the study.

Results from the three groups are compared below in Table 1. (All values represented as median.)

Table 1:

	PMP (One redo)	PMP (Two redo)	Appendix Cancer (redo)	CRPM (redo)
Number	30	8	8	6
Male:Female	2:28	1:7	4:4	2:4
Age(yrs)	51(22–72)	46(35–67)	55.5 (35– 67)	45 (31–59)
PCI score	19 (0–33)	21 (3–27)	9.5 (4–21)	6.5 (3–11)
CC score	1 (0–3)	1 (0–3)	0 (0–3)	0.5 (0–2)
Hospital Stay (days)	11.5 (8–54)	10 (6–13)	10.5 (7–16)	10(9–17)
Gr 3 /4 complications	2(6.7%)	0	1(12.5%)	0
90 day mortality	0	0	0	0
Duration between surgeries (months)	26(7–76)	26(13–99)	26.5(10–59)	17(8–23)
Recurrence site after primary surgery	pelvis, paracolic (PC), perisplenic, abdominal wall	pelvis, LUQ, PC, abdominal wall	abdominal wall, pelvis, PC, bowel resection site	pelvis, vaginal wall, PC, paraduodenal, abdominal wall
Follow up(months)	33.5	26	20	12
DFS (Months)	19 (1–140)	12.5 (6–99)	14 (5–23)	7.5 (0–12)
OS	77.87%(5 yr)	100%(5 yr)	57.1%(3 yr)	100 (3 yr)

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Conclusion

Advanced PMP, recurrent appendiceal & peritoneal metastasis of colorectal origin have poor prognosis. This study demonstrates in selected group of patients redo CRS and HIPEC is safe and feasible option which may improve survival.

D20

SYSTEMIC CHEMOTHERAPY IN APPENDICEAL ADENOCARCINOMAS WITH PERITONEAL METASTASES. IS IT WORTH IT?

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Objectives

The aim of the study was to realize how is the practice of the use of systemic chemotherapy (SC) in patients treated of peritoneal metastases from appendiceal cancer, and analyze its impact in the outcome of those patients.

Methods

We perform an observational study of patients treated of peritoneal metastases from appendiceal neoplasm between June 2004 and December 2017. They were referred to our hospital for CRS HIPEC. Systemic Chemotherapy regimens were decided by the referring oncologist. We analyze PCI, CC, and use of SC. Overall survival and progression free survival were compared attending to histologic subtype (high- and low-grade adenocarcinomas) and the use of SC.

Results

60 patients were included, 26 were male, median age 63 years (26–81). Median follow-up of 38 months [2–155]. The predominant histologic subtype was mucinous adenocarcinoma (58/60), 1 was colonic type, and 1 adenocarcinoid with signet ring cells. Four patients had extraperitoneal metastases, 2 hepatic metastases (1 with high-grade mucinous adenocarcinoma and 1 with colonic adenocarcinoma), and 2 in the low-grade group developed parenchymal lung disease. Three patients died in the postoperative period. Systemic chemotherapy was administered in 26 patients/57. No difference were observed in the OS and PFS regardless the use of SC in the high- and in the lo-grade groups.

Conclusion

The use of SC in low-grade mucinous adenocarcinoma subtype is not supported by our results, and there is no literature date supporting it neither. Palliative SC in high-grade patients deserves of clinical trials for been accepted as standard of care, when benefits are not clearly established by evidence and toxicities are not negligible.

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D21
SURVIVORSHIP AND QUALITY OF LIFE IN PATIENTS WHO HAVE UNDERGONE CYTOREDUCTIVE SURGERY AND HIPEC: A PILOT STUDY

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Objectives

Cancer survivors have concerns that are not addressed by traditional quality of life (QOL) measures which were designed for the acute treatment phase. Although long-term survivorship is possible after cytoreductive surgery (CRS) and HIPEC, there is little data on QOL in the survivorship phase in these patients.

Methods

We conducted a cross-sectional pilot study including patients over 18 months from CRS/HIPEC at a tertiary care centre. Participants completed the validated Quality of Life in Adult Cancer Survivors survey (QLACS). Higher scores represented worse QOL, except for the benefit of cancer score. Generic and cancer-specific summary and domain-specific scores were assessed and compared to literature-reported long-term colorectal cancer (CRC) survivors (controls). Intra-cohort differences were also assessed stratifying by age at CRS/HIPEC (≤50 years, >50 years), sex, and incidence of recurrence/residual disease post-CRS/HIPEC. Predictive factors were assessed.

Results

A total of 50 patients were included. The mean generic score was 68.5 (29–149) and the mean cancer-specific score was 37.2 (15–73), with no significant difference between study patients and CRC controls in the generic score (68.5 vs 60.9, $p = 0.081$); but study patients reported significantly better in the cancer-specific score (37.2 vs 41.7, $p = 0.039$). In specific domains (positive feelings, pain, distress for family), scores were significantly better than controls ($p < 0.05$), and significantly worse in others (sexual problems, distress over recurrence). Age ≤50 years at the time of CRS/HIPEC was associated with significantly worse financial problems (10 vs 4, $p = 0.01$). Scores between patients who had recurrence/residual disease after HIPEC were comparable to those who did not; however, patients who had recurrence/residual disease reported significantly less in the benefit of cancer score (12 vs 20, $p = 0.04$). Female patients had a significantly worse score for sexual problems (12 vs 6.5, $p = 0.01$).

Conclusion

This is the first study to assess QOL specific to survivorship in CRS/HIPEC patients. Although the generic score was comparable to CRC survivors, study patients reported better and worse QOL in various domain-specific scores. Further collection of QLACS questionnaires and qualitative research to supplement the QLACS results should be done to better understand the specific issues faced by CRS+HIPEC survivors. This could allow for exploration into the possibility of intervention to improve the domains with worse QOL.

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D22
ROLE OF ORAL METRONOMIC CHEMOTHERAPY(OMCT) AFTER CRS+/-HIPEC IN POOR PROGNOSIS PERITONEAL MESOTHELIOMA

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Objectives

To evaluate feasibility, tolerance & efficacy of OMCT (oral metronomic chemotherapy) after CRS±HIPEC in peritoneal mesothelioma(PM) with high disease burden and 1) progression on systemic chemotherapy(NACT - neoadjuvant chemotherapy OR ACT-adjuvant chemotherapy) OR (2)unfit to receive systemic chemotherapy OR (3) incomplete cytoreduction

Methods

A retrospective outcome analysis of patients undergoing CRS±HIPEC for malignant PM, between 2013 & 2017. Patients with factors mentioned above were given OMCT:a combination of oral cyclophosphamide, methotrexate & celecoxib, after CRS.

Results

16 patients had CRS (CC0-1 in 8 and CC2-3 in 8).Median PCI was 31.5 (range 10–39).11 patients had PCI > 30. HIPEC was done in all except one with baseline renal dysfunction in CC0-1 group.CC2-3 patients did not receive HIPEC. Ten patients had NACT & 6 showed disease progression (60%).Eight had ACT & four showed progression (50%). There was a significant difference between the mean PCI of CC0-1 group & CC2-3 group (22.7 vs 34.7; $p = 0.01$).

OMCT was given to 9 patients (4 with CC0-1 & 5 with CC2-3). Four patients received OMCT after CRS (2 from CC0-1 group &2 from CC2-3 group) when disease progressed on ACT. All were in poor PS(performance status) and subacute obstruction by that time. All died due to disease within 3 months, without any benefit of OMCT.

In rest of the 5 patients, OMCT was started immediately after CRS (2 from CC0-1 & 3 from CC2-3) because all had progressive disease on NACT. All were in good PS & showed good outcomes. The 2 patients of CC0-1 group were alive & disease free at 11 &16 months' follow up. The 3 patients of CC2-3 group were alive with disease at 20, 32 and 36 months.

The mean duration of OMCT was 12 months and no major OMCT related grade 3–5 morbidity was noted. Median follow up was 13.4 months. At the end of the study period 5 patients were dead. Five are alive with the disease (3 on OMCT) & 6 are alive without disease (2 on OMCT). No significant difference in OS was noted between CC0-1 & CC2-3 groups probably because of the benefit afforded by OMCT.

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Conclusion

In high volume, poor prognosis PM resistant to chemotherapy, maximal CRS+/-HIPEC followed by OMCT can be a better alternative to systemic therapy alone, to achieve durable outcomes. Early patient selection & good PS is needed for long duration OMCT. The molecular basis of OMCT in PM needs further research which may throw more light on how best can we use this modality alongside other systemic and locoregional therapies.

D23

LAPAROSCOPIC VERSUS OPEN CYTOREDUCTIVE SURGERY WITH HYPERTHERMIC INTRAPERITONEAL CHEMOTHERAPY FOR PERFORATED LOW GRADE APPENDICEAL MUCINOUS NEOPLASMS

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Objectives

Cytoreductive surgery with hyperthermic intraperitoneal chemotherapy (CRS/HIPEC) is an established treatment for pseudomyxoma peritonei resulting from a perforated low grade appendiceal mucinous neoplasm (LAMN II). In a selected group of patients with extra-appendiceal localised disease (EALD) it can be performed laparoscopically, however the outcomes of this approach have not been quantified. This study compared laparoscopic vs open CRS/HIPEC in matched groups of patients with EALD/LAMN II.

Methods

Patients were identified from a prospective database. Outcomes of interest included peritoneal cancer index (PCI), completeness of cytoreduction score (CCS), operative time, Clavien-Dindo graded post-operative complications, length of CCU and hospital stay, incisional hernia, and disease recurrence.

Results

Between 2003–2017, 84 patients (M: F = 38:46) underwent CRS/HIPEC for EALD/LAMN II: Open surgery (OS) = 29, Laparoscopic surgery (LS) = 55. Median follow-up time of 3 years, median age was 50 (19–70) for OS vs 55 (25–82) for LS, M: F was 1:1 for OS vs 1:1.4 for LS, PCI was 0 (0–7) for OS vs 0(0–5) for LS, and CCS was 0 (0–1). Median operative time 7.3 hrs (5.9–8.4) for OS vs 8.8 hrs (6.7–11.5) for LS with more appendiceal stump excisions (5 OS vs 15 LS) as well as salpingo-oophrectomies (10 OS vs 28 LS) in LS. Median length of hospital stay was 10 days (8–15) in OS with a median of 2 days (0–3) in CCU vs 6 days (4–29) in LS groups with a median of 0 day (0–4) in CCU($p < 0.001$). Post-operative complications occurred in 5 (17.2%) patients in the OS group (grade 2–3) vs 9 (16.4%) patients in the LS group (grade1–4). In the OS group there were 6 incisional hernias (20.7%) vs none in the LS group ($p < 0.001$). There was no disease recurrence in either group.

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Conclusion

Laparoscopic CRS/HIPEC can be safely performed in patients with EALD/LAMN II and has significant benefits with regards to length of stay and incisional hernia formation, whilst maintaining equivalent medium-term outcomes.

D24

COMPARISON OF TWO PREOPERATIVE PROGNOSTIC TOOLS TO SELECT PATIENTS FOR CYTOREDUCTIVE SURGERY AND HIPEC IN DIFFUSE MALIGNANT PERITONEAL MESOTHELIOMA

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Objectives

Cytoreductive surgery (CRS) with hyperthermic intraperitoneal chemotherapy (HIPEC) is regarded as standard of care for diffuse malignant peritoneal mesothelioma with 5 year overall survival of up to 47%. To assure such a good result a careful patient selection is critical with the assistance of prognostic tools. The aim of this study is to compare the performance of two preoperative prognostic tools for the selection of patients to CRS/HIPEC.

Methods

We selected a set of 155 patients affected by DMPM and treated by CRS/HIPEC in two high-volume Peritoneal Surface Malignancies centres. They had complete information regarding the main prognostic factors and follow-up. We evaluated the performance of two preoperative prognostic tools. The first one (model 1) is a preoperative nomogram that was built from the PSOGI registry on peritoneal mesothelioma (model 1). It considers age, peritoneal cancer index (PCI), and histological subtype (epithelioid vs. biphasic/sarcomatoid), was generated by Cox regression analysis, and was already externally validated. The second one (model 2) was built in Milan using conditional inference tree model. It considers ki-67 and PCI. We compared discrimination, calibration, and clinical usefulness by means of decision curve analysis.

Results

The mean age (SD) was 55.7 (12.7). Ninety-two patients were male. Eighty-eight percent had epithelioid subtype and 12% biphasic/sarcomatoid. Mean PCI (SD) was 21.5 (10.7). After a mean follow-up was 34.7 months 73 deaths were recorded. The 1, 3, and 5 year OS were 77%, 53%, and 42%, respectively. The Harrell-C indexes were the equivalent: 0.68 and 0.67 for model 1 and 2, respectively. Both models had good calibrations. However, model 1 outperformed model 2 according to the one-year OS decision curve analysis, revealing a superior clinical usefulness, in particular for threshold survival rates ranging from 42% to 74%.

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Conclusion

The preoperative nomogram had a better performance as compared to the decision tree model from the decision curve perspective. Nevertheless, discrimination with the preoperative nomogram remains moderate, and further prognostic research is essential for further improve prognostic tools and refinement of patient selection.

D25

MANAGEMENT OF MALIGNANT PERITONEAL MESOTHELIOMA IN THE ERA OF BIDIRECTIONAL CHEMOTHERAPY: MID-TERM RESULTS IN A SINGLE-INSTITUTION EXPERIENCE.

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Objectives

Malignant peritoneal mesothelioma (MPM) is a highly aggressive primary neoplasm. Despite excellent results achieved by complete cytoreductive surgery (CRS) and hyperthermic intraperitoneal chemotherapy (HIPEC), resectability remains low in case of diffuse MPM. Bidirectional chemotherapy (BD-CT) has been recently proposed as an additional strategy to improve resection rates and oncological outcomes. The aim of this study is to analyse the treatment modalities and mid-term results after the introduction of BD-CT in a single-institution experience.

Methods

All consecutive patients with an histological diagnosis of MPM were retrospectively analyzed. Unresectable (NR-) and borderline (BL-) MPM was defined according to the extent of disease at staging laparoscopy, the type of surgery and the impact on quality of life. NR- and BL-MPM underwent BD-CT and objective response was assessed by laparoscopic evaluation and histology. Pre-, intra- and post-operative variables were compared between patients who underwent up-front CRS+HIPEC for resectable MPM (HIPEC group) and those patients who underwent CRS+HIPEC after BD-CT (BD-HIPEC group).

Results

Between 2013 and 2017, 54 consecutive patients treated for diffuse MPM were analysed. At staging laparoscopy patients were classified as 24 resectable, 16 BL- and 12 NR-MPM. Groups were not statistically different for age, sex, histological subtype and number of previous intravenous chemotherapy cycles. Median PCI was significantly higher for BL- and NR-MPM compared to RES-MPM (25.0 ± 4.8, 34.7 ± 4.2 and 17.8 ± 6.9, $p < 0.0001$). BD-CT was performed in 26 patients for a median of 5 cycles. Laparoscopic PCI decreases from 26.8 ± 6.1 to 17.2 ± 9.7 (p 0.001) after the first evaluation. Overall resectability rate in BL- and NR-MPM was 57.1%. HIPEC and BD-HIPEC groups were not statistically different for intraoperative variables. Grade IIIb-IV complications (40% vs 36%, p 0.326) and 90-day mortality (0% vs 4%, p 0.465) were similar between the groups. After a median follow-up of 21.9 months, 3-year overall was 78.3% and 90% for HIPEC and BD-HIPEC groups, respectively.

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Conclusion

BD-CT increases the resectability rate of patients with BL- or NR-MPM without major impact on post-operative morbidity and mortality and achieves similar survival rates to those of patients treated by up-front HIPEC. More studies are needed to validate these findings and to standardize the response assessment methods after BD-CT, actually considered a bias of this strategy.

D26

STAGED CRS/HIPEC: AN APPROACH FOR DIFFICULT CASES OF INDOLENT PERITONEAL SURFACE MALIGNANCY

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Objectives

In some clinical situations, an operative plan for cytoreductive surgery and hyperthermic intraperitoneal chemotherapy (CRS/HIPEC) can be highly complex with foreseeable severe morbidity. Settings that make standard CRS/HIPEC unreasonable include: overwhelming volume of disease requiring prohibitive resection time, multiple co-morbidities, complex operative reconstruction, and an intraoperative complication. One approach to these otherwise ineligible patients is to plan for a staged procedure.

Methods

To analyze factors surrounding the outcomes of patients treated with a staged CRS/HIPEC, we retrospectively reviewed characteristics regarding the subjects and procedures used. All patients underwent surgery at M D Anderson Cancer Center, Houston Texas, Jan 1, 2009 to Dec 31, 2017.

Results

Twelve patients were treated with planned staged CRS/HIPEC. Subjects had a median age 63 (45–67 years), seven were female; ECOG PS ranged 0–2; Three had peritoneal mesothelioma and nine had low-grade mucinous appendiceal cancer, one of these with an additional separate metastatic neuroendocrine appendiceal tumor. In most patients, multiple factors influenced the decision to stage the procedure: Six patients had a complex reconstruction, seven had extensive disease, five had high blood loss and two suffered prohibitive co-morbidities. At the first operation, the median PCI was 26 (10–33), all had at least 4 organ resections, and discharge was on days 6–24 (median 13). Nine patients suffered at least one grade 3-4 complication. Three patients never recovered sufficiently to undergo a second procedure. Seven returned to the OR (3–13 months, median 5 mo) for an attempt at second stage surgery, one was aborted during induction due to anaphylactic shock. Two additional patients are in an early postoperative phase and remain eligible for a second stage procedure. In the remaining six patients PCI at the second stage was 4–29, and CCR at the second operation was 0 in 3, 1 in 2 and 2 in 1 patient(s). Discharge was 7–16 days following the second procedure. Four patients suffered at least one grade 3-4 complication following the second stage surgery.

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Conclusion

Twelve patients presented as poor candidates for cytoreduction and HIPEC, and underwent a planned staged HIPEC. Seven completed both stages surviving complex operative approaches, albeit with difficult postoperative recovery. Patients undergoing CRS/HIPEC who have daunting clinical or operative scenarios may be considered for a staged approach.

D27

NEUTROPENIA FOLLOWING CYTOREDUCTIVE SURGERY AND HYPERTHERMIC INTRAPERITONEAL CHEMOTHERAPY WITH MITOMYCIN C IS ASSOCIATED WITH LONGER LENGTH OF STAY AND INCREASED POSTOPERATIVE COMPLICATIONS

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Objectives

Cytoreductive surgery and hyperthermic intraperitoneal chemotherapy (CRS/HIPEC) with Mitomycin C (MMC) has been associated with neutropenia following the procedure. The association of neutropenia with outcomes has not been well-established. This is a retrospective study of our institutional experience.

Methods

We performed a retrospective analysis of a single-institution database for patients who underwent CRS/HIPEC with MMC (dosing was 17.5 mg/m^2 at initiation of HIPEC, followed by 2 additional doses of 8.8 mg/m^2 at 30 minutes and 60 minutes). All patients had appendiceal or colorectal adenocarcinoma. Neutropenia was defined as an absolute neutrophil count of less than 1,500 per microliter. Chi-square test and Fisher's exact test were used to define differences between those patients who developed neutropenia and those who did not.

Results

We identified 56 patients who underwent CRS/HIPEC with MMC over the period of 2009–2017. The median age was 61 years (range 22–78). 16 patients (28.6%) developed neutropenia. The median time to develop neutropenia was 7 days postoperatively (range 5–17). Patients who developed neutropenia had an increased length of hospital stay (13 days versus 9 days, $p < 0.05$). Neutropenia was associated with an increase in postoperative complications (81.3% versus 37.5%, $p < 0.05$). Neutropenia was not associated with a difference in survival, however, administration of growth factor (GM-CSF) was associated with reduced OS (median 11.7 months for patients who received growth factor, median OS not met for those who did not, $p < 0.05$). The incidence of neutropenia increased over the time period of the study, with 58% of patients who underwent surgery in 2017 developing neutropenia compared to 33% and 25% in the proceeding 2 years.

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Conclusion

Our data suggest that neutropenia following CRS/HIPEC is associated with an increase in hospital length of stay and postoperative complications. These preliminary results indicate a decrease in survival in patients treated with growth factor. The increased rate of neutropenia over the last year has prompted a change in the dosing of MMC (30 mg given at time zero, 10 mg given at 60 minutes), though data to suggest the efficacy of this change is not yet mature.

D28

CRS+HIPEC FOR PERITONEAL CARCINOMATOSIS OF APPENDICEAL ORIGIN WITH HIGH TUMOR LOAD

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Objectives

Cytoreductive surgery and hyperthermic intraperitoneal chemotherapy (CRS+HIPEC) are regarded as a standard care for peritoneal carcinomatosis (PC) of appendiceal origin. However, in cases with high tumor load, complete cytoreduction (CC-0/1) is sometimes difficult, and postoperative complication or early recurrence is frequently seen. The purpose of this study is to clarify the treatment strategy for such cases.

Methods

High tumor load was defined as PCI ≧ 28. Among 49 cases which underwent CRS+HIPEC for PC of appendiceal origin, there were 29 cases with PCI ≧ 28. CC-0/1 was achieved in 20 cases. Clinical data were compared between 1) groups of PCI ≧ 28 and PCI < 28 among cases of CC-0/1, and 2) groups of CC-0/1 and CC-2/3 among cases of PCI ≧ 28.

Results

1) The group of PCI ≧ 28 included more patients with PS ≧ 3, and required more extensive peritonectomy and organ resection as compared with that of PCI < 28. Hospital stay was longer (23 vs. 35, $p < 0.01$) and postoperative complications of grade ≧ 3 were more frequently seen (45% vs. 10%, $p < 0.05$). Although overall survival was not different between the two groups (MST: 158.9 vs. 70.6), recurrence-free survival was significantly worse in the group of PCI ≧ 28 (80.3 vs. 14.4, $p < 0.01$). Recurrent cases which underwent repeat CRS showed better overall survival than those without repeat CRS (NR vs. 25.9, $p < 0.05$). 2) There was no significant difference in postoperative complication (45% vs. 44%) and overall survival (70.6 vs. 29.3, $p = 0.08$) between groups of CC-0/1 and CC-2/3. However, 10-year survival was only achieved in the group of CC-0/1 (survival rate: 49.6%). PS ≧ 3, CC-2/3, and postoperative complication were possible factors affecting the overall survival by univariate analysis, but only PS ≧ 3 was significant by multivariate analysis.

Conclusion

1) The group of PCI ≧ 28 showed more frequent postoperative complications and recurrences. Repeat CRS was effective to improve overall survival of recurrent cases. 2) Debulking surgery was still effective, but survival longer than 10 years was only achieved by complete cytoreduction. 3) PS ≧ 3 may be a key factor in the patient selection for aggressive resection.

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D29
CYTOREDUCTIVE SURGERY(CRS) WITH HYPERTHERMIC INTRAPERITONEAL CHEMOTHERAPY(HIPEC) FOR PSEUDOMYXOMA PERITONTI (PMP) - 15 YEARS' EXPERIENCE FROM WANFANG HOSPITAL, TAIWAN

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Objectives

Pseudomyxoma peritonei(PMP) is characterized as low grade malignant mucinous tumor metastasis in peritoneal cavity, mostly from appendiceal origin. Conventional treatment with serial debulking surgery is accompanied with frequent recurrence. Aggressive cytoreductive surgery (CRS) combined with hyperthermic intraperitoneal chemotherapy (HIPEC) has been qualified as the standard treatment for PMP in western countries. However there has not been consensus in Taiwan. We would like to share our experience treating PMP patient with CRS/HIPEC.

Methods

From 2002 to 2017, there were 52 PMP patients underwent 84 procedure of CRS. HIPEC was performed by open or closed method with intraperitoneal chemotherapy of Mitomycin-C 30 mg in normal saline 6 liters, under 42–43 celsius degree for 60 min. Post-operative follow up including laboratory test and physical examination every 3 months, image study every 6 months. The patients with residual tumors or recurrent disease underwent more procedures of CRS/HIPEC.

Results

The mean age is 56 (±12), FU time:52.5M (4.5–190). The mean PCI is 20.3, complete cytoreduction (CC0-1) was achieved in 53% procedures. There is no recurrence in 44 patients, FU time:52.5 M (4.5–190). The survival is better in patient underwent CC0-1 cytoreductive surgery and PCI < 20. The severe complication rate decreased by experience collection (25% in first 80 CRS/HIPEC procedure to 9.5% in second CRS/HIPEC procedure), the same result was recorded in mortality rate (6.3% in first 80 CRS/HIPEC procedure to 1.2% in second CRS/HIPEC procedure).

Conclusion

CRS/HIPEC is an effective treatment for PMP, and intended to cure this disease. CRS/HIPEC treatment is accompanied with relatively high morbidity and mortality rate. Decreasing complication rate is observed after learning curve.

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D30
COMPLETE PATHOLOGIC RESPONSE AFTER TWO-STAGE CYTOREDUCTIVE SURGERY WITH HIPEC FOR PSEUDOMYXOMA PERITONEI

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Objectives

The optimal treatment for pseudomyxoma peritonei(PMP) includes the association of complete cytoreductive surgery and hyperthermic intraperitoneal chemotherapy (HIPEC). However some patients present with a large burden of disease and fragile general status. This study aims to present a proof of concept of a two-stage cytoreductive surgery associated with HIPEC for these patients as to grant them access to a final CCR0-1 status.

Methods

Out of 40 patients treated with PMP in our center between 2014 and 2016, five patients were included in a two-state strategy. It was reserved for patients with a low grade PMP, PCI between 20–39, impaired general status and involvement of the digestive tract with several implants present on the serosal surface of the small bowel or/and of the colon requiring at least three resections with anastomoses or five long running sutures. The residual tumoral thickness after stage one was less than 5mm. Operative, postoperative and follow-up data were prospectively recorded and analyzed. Histological samples were analyzed by two independent pathologists and specimens at the end of stage two were compared to those of the first stage.

Results

The two stage cytoreductive surgery with HIPEC was feasible and well tolerated by the patients in this pilot group. Morbidity was grade II for all patients in the group for both stages. No macroscopically-visible residual disease was found in the second stage of CRS although fibrotic scars were sometimes present on the peritoneal surface. All patients are presently alive, without any evidence of recurrent disease, the median follow-up being 14 months.

Conclusion

Our study is the first to show in a small series of patients with PMP, a complete histological response after an uncomplete CRS and HIPEC as the first stage of treatment for initially non-completely resectable patients. These results, although in a small series of patients, are very encouraging for future treatment of fragile patients with voluminous tumoral burden of low-grade PMP.

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D31
CRS AND HIPEC FOR HUGE PSEUDOMYXOMAS: EXPERIENCE OF A TERTIARY CANCER CENTRE IN INDIA

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Objectives

The learning curve for cytoreductive surgery (CRS) for pseudomyxoma peritonei (PMP) is very long and CRS for huge PMP poses many challenges to the surgical team and anaesthetists. The aim of this study is to analyse the short-term treatment outcomes of PMP in our institution with special reference to huge PMP.

Methods

A prospectively maintained database of patients who underwent CRS and hyperthermic intraperitoneal chemotherapy (HIPEC) in our institution between 2012 and 2018 was retrospectively reviewed to identify patients with PMP. Patients were divided into two groups based on the peritoneal cancer index (PCI) score- Group A (huge PMP; PCI ≥ 28) and Group B (PCI < 28). Various clinical, pathological and treatment related factors and the oncological outcomes were compared between patients in the two groups. Regression analysis of various patient and treatment related factors were performed to identify independent predictors of grade 3–5 morbidity.

Results

A total of 27 patients with PMP underwent CRS and HIPEC during this period of which 16 had huge PMP (group A). Patients with huge PMP were younger (median age 50.5 vs 54 years), had a lower serum albumin (mean 2.9 ± 0.85 vs 3.6 ± 0.63 g/dl) and lower BMI (median 23.5 vs 27) when compared to those in Group B. The median PCI score was 33.5 (range 29–39) and 17 (range 0–27) in the two groups respectively. The median duration of surgery (13 vs 9 hours) and the median blood loss (1800 ml vs 1400 ml) was lower in Group A compared to Group B. A completeness of cytoreduction score of 0/1 was achieved in 93.7 and 100% of patients in Group A and B respectively. None of these differences were significant. Rectal resections, total colectomy, splenectomy and a diversion stoma were more commonly performed in patients with huge PMP. Grade 3–4 complications were seen in 43.75% and 9% of patients and 90-day mortality occurred in 12.5% and 18% of patients in Groups A and B respectively. The only independent predictor of Grade 3–5 morbidity was the duration of surgery.

Conclusion

Patients with huge PMP presented with a poor nutritional status. They had a significantly higher overall morbidity when compared to the patients with a lower PCI. The only independent factor predicting grade 3–5 morbidity was the duration of surgery.

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D32
PERITONEAL INVOLVEMENT IS MORE COMMON THAN NODAL INVOLVEMENT IN PATIENTS WITH HIGH-GRADE APPENDIX TUMORS UNDERGOING PROPHYLACTIC CYTOREDUCTIVE SURGERY AND HYPERTHERMIC INTRAPERITONEAL CHEMOTHERAPY

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Objectives

Right hemicolectomy is routinely recommended in patients with histological findings of high-grade appendix tumour after appendicectomy. Undetected peritoneal disease may be encountered at surgery. In high-grade appendix tumours with disease detected radiologically, complete cytoreduction may not be possible and outcomes poor. For these reasons, we adopted a policy of “prophylactic” cytoreductive surgery and hyperthermic intraperitoneal chemotherapy. This study aims to quantify the rates of peritoneal and nodal metastatic disease in patients with high-grade appendix tumours without obvious metastatic disease and to report the long-term outcomes of cytoreductive surgery and hyperthermic intraperitoneal chemotherapy in these patients.

Methods

Patients referred to a high-volume tertiary referral centre for peritoneal malignancy, with histologically high-grade appendix tumours at appendicectomy, without detectable metastatic spread, between January 1994 and September 2016 were included. Data regarding peritoneal and nodal metastatic disease was extracted from surgical and histological records.

Results

62 patients with high-grade pathology at appendicectomy, without clinical or radiological peritoneal disease, underwent complete cytoreduction with hyperthermic intraperitoneal chemotherapy. 35/62 (57%) had peritoneal disease (median PCI 5; range 1–28). 11/35 (31%) had microscopic peritoneal disease. Overall, 23/62 (37%) had peritoneal disease beyond the confines of a standard right hemicolectomy. 9/62 (15%) had nodal involvement.

Mean overall and disease-free survival was 110.9 (95%CI: 94.8–127.0) and 102.1 (95%CI: 84.3–119.9) months with 5-year overall and disease-free survival of 83.2% and 76.0%.

Conclusion

Complete cytoreduction was achieved in all patients with excellent long-term survival. The incidence of peritoneal spread (57%) compared with nodal involvement (15%) supports cytoreductive surgery and hyperthermic intraperitoneal chemotherapy as definitive treatment rather than “prophylaxis” in patients with HGA tumours, even without radiologically detectable disease. High-grade appendix tumours benefit from early aggressive operative management to deal with potential peritoneal and nodal spread and should be considered for cytoreductive surgery and hyperthermic intraperitoneal chemotherapy.

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D33
TOTAL GASTRECTOMY AS PARTS OF CYTOREDUCTIVE SURGERY FOR PATIENTS WITH PSEUDOMYXOMA PERITONEI

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Objectives

To investigate the safety and treatment outcome of total gastrectomy as parts of cytoreductive surgery (CRS) in patients with pseudomyxoma peritonei (PMP).

Methods

Medical records were reviewed in patients with PMP treated between Jun 2011 and Aug 2017. Eight primary and 16 recurrent diseases were included in this analysis.

Results

Fifteen (62.5%) were female and median age was 55 (range, 31–72 years) years. Cytoreduction with residual tumor <5 mm was achieved in 66.7% (15/21). HIPEC was performed in 9 women (37.5%). Median PFS was 6 (range, 3–12, months) months and median OS was 31 months (range, 26–56, months). Median PFS was 10 months (range, 0–12 months) and 5 months (range, 1–13 months) and median OS was 31 (range, 30–56 months) and 27 months (range, 17–42 months) ($P < 0.001$) in women with primary and recurrent PMP, respectively.

Conclusion

Total gastrectomy is feasible and safe surgical procedure as parts of cytoreductive surgery for patients with PMP. Long-term follow up of survival outcome is needed to know the impact of gastrectomy in those patients.

D34
ONE CENTER DETAILED ANALYSIS OF CRS+HIPEC INTERVENTIONS PERFORMED IN PATIENTS SUFFERED FROM DIFFUSE MALIGNANT PERITONEAL MESOTHELIOMA (DMPM)

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Objectives

Diffuse malignant peritoneal mesothelioma (DMPM) by many authors named shortly peritoneal mesothelioma (PM) is a type of peritoneal carcinomatosis (PC) which historically has been firstly time noted in the beginning of XX century. In some of cases there is a correlation between exposure of asbestos and the presence of DMPM. This type of PC is mainly detected between 5th and 6th decade of life. The aim of our study was to present in one center detailed analysis the characteristic and effects of CRS+HIPEC interventions performed in patients suffered from Diffuse Malignant Peritoneal Mesothelioma (DMPM).

Methods

In our study we have performed the retrospective assessment of CRS+HIPEC interventions performed between February 2015 and May 2017 in the Chair and Department of Surgical Oncology CM NCU in Bydgoszcz Poland. In our study we have presented the detailed data according to the PCI status and comorbidities alike the advancement and level of performed cytoreduction. We also present the characteristic of treated patients and implemented standards of chemotherapy.

Results

In our material we haven't observed any complications and unexpected clinical situations in patients treated using the CRS+HIPEC method. The total number of five patients were analyzed in the study (n = 5). The age median was (33,8 y.). The median average of PCI index was: 12,8 pt. The median of Karnofsky Index was: 78 pt. The whole group of patients were in detail analyzed due several clinical, pathological and follow-up issues.

Conclusion

CRS+HIPEC is an safe and effective form of therapy in patients suffered from DPMP. In our analyzed one center data material we found that none of complications were noted. In our study we have also found that finally the patients which underwent the CRS+HIPEC procedure due to the DMPM report in the follow-up significantly good quality of life (QOL). We hope that our findings will be helpful to promote and start larger studies onCRS+HIPEC not only in our center but also in our country.

D35

PERITONEAL MESOTHELIOMA, IN MEXICO?¡

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Objectives

Peritoneal mesothelioma is a rare disease, the main reports come from developed countries, mostly because of its work with asbestos, nevertheless in low income countries is often misdiagnosed considering its low incidence.

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The specialized centers for peritoneal malignancies are restricted, mostly based on economic resources, lack of training and a health system not cohesive. (Multiple healthcare systems for different populations including the public services) 5 Centers are working under a surgical leader with training, conducting a protocol and continuous interaction with the international community.

After our systematic review, no data focusing on the diagnosis and management of peritoneal mesothelioma was found in our country, Mexico.

Malignant Mesothelioma is a malignant primary neoplasm of mesodermal origin of the serous membranes, which is located mainly in the pleura (50–60%), less frequently, peritoneum (20–30%), pericardium, uterus and testes mainly in the vaginal tunic. Peritoneal presentation with low incidence presents with nonspecific symptoms, which makes it a challenge in its diagnosis.

Methods

Descriptive study of a series of cases, cohort, conducting a search of patients diagnosed with malignant peritoneal mesothelioma, in our center, Instituto Jalisciense de Cancerología on the past five years (After the establishment of our Peritoneal Metastasis Center).

Results

We analyzed 118 cases, 11 patients with confirmed diagnosis of Peritoneal Mesothelioma, aged 17–67 years, without differences in terms of sex. **Only one patient had a direct relationship with asbestos.** The clinical characteristics included, pain, ascites and weight loss. The histology documented in 8 cases papilar/epitheloid, 2 biphasic and 1 sarcomatoid.

The medium PCI was 21, the surgical score obtained CC0: 5 CC1 in 5 CC2: 1 HIPEC 85 minutes 42°C. LOS 12 days. No major complications were seen.

Two patients have died due to their progression of the disease with an average of 24 months of diagnosis.

Conclusion

To identify additional cases, is necessary to characterize patients with MPM, and so being evaluated in a multidisciplinary team, considering their biological behavior and prognosis.

It has been demonstrated that the CRS-HIPEC as a first-line therapy has been able to reproduce in those patients with favorable factors and it has been found that this treatment modality provides a better survival of this disease that is currently ultimately fatal, now we can provide this in Mexico.