

## Ovary: Oral Abstract

### Clinical outcomes of cytoreductive surgery and HIPEC in advanced and recurrent epithelial ovarian cancers with peritoneal carcinomatosis

**Shveta Giri, Swati Shah, Rupinder Sekhon, Sudhir Rawal**

**Introduction:** The role of surgery for Peritoneal carcinomatosis (PC) has slowly evolved from palliation to potential curative intent. Attempting to remove all visible tumor deposits, "surgical cytoreduction" (CRS) was reported in 1930s for ovarian cancer and eventually became an accepted therapy with proven survival benefit. The new approach of combining CRS and Hyperthermic intraperitoneal chemotherapy (HIPEC) to treat peritoneal metastasis offer hope for long term survival in this group of patients. The risk and benefit of this approach continued to be debated. A prospective study was conducted to understand the perioperative outcomes of CRS & HIPEC.

**Aim:** To evaluate the perioperative outcomes associated with CRS & HIPEC in Advanced and Recurrent Epithelial Ovarian Cancer with PC.

**Methods:** Prospective analysis of patients undergoing CRS & HIPEC from November 2014 to July 2015 was done. Inclusion criteria included localized disease in peritoneal cavity, no distant metastasis and PS <2. Grade 3/4 complications from day of surgery until 30 days postoperatively were recorded.

**Results:** We performed CRS & HIPEC in 20 patients from Nov 2014 to June 2015. HIPEC Plus regimens included Cisplatin (50 mg/ m2) and Lipodox (15 mg/m2) intraperitoneally and Ifosphamide (1300 mg/m2) & Mesna (260 mg/m2) Infusion time was 90 minutes with a temperature range of 41-43 °C. Out of 20 patients 6 (30%) underwent primary debulking surgery and 14(70%) underwent secondary debulking surgery. PCI score ranged from 2-26 (mean 13.65). Mean operating time was 6.42 hrs and average blood loss was 1046 ml. Average hospital stay was 8 days and SICU stay was 4.9 days (range 3-14 days). Total 26 adverse events were observed of which grade 1 were 11 (42%), grade 2 were 8 (30%), grade were 3 (11.5%) and grade4 were 2 (8%). Most common complication was hematological (8) followed by respiratory (6), sepsis (4) renal (2), GI (2). 4 patients (5 events) developed grade3 or 4 complications in the form of septicaemia, pulmonary embolism, GI fistula of which 2 patients expired and remaining recovered although required prolonged hospitalization. Increased morbidity were observed in cases with symptomatic relapse, higher PCI score and CA 125 level higher than 250 U/ml. Most of the adverse events were grade 1 and 2 and were managed by observation only or GCSF support, transfusions and other minor interventions. The combined grade 3-4 morbidity was 20% (4out of 20) which consisted of neutropenia, infection and respiratory complications. One patient required relaparotomy and two patients expired attributed to pulmonary embolism and septicaemia respectively.

**Conclusion:** Enthusiasm associated with improvement in survival is often dampened by increased perioperative mortality and morbidity figures and therefore CRS & HIPEC has not yet been considered standard of care by many centres. HIPEC after extensive cytoreductive surgery for ovarian cancer is a procedure with acceptable morbidity that patients can tolerate. More follow up is needed to determine the effect of HIPEC on survival. Till such time more data are obtained by way of larger randomised trials, this approach remains investigational.

## Ovary: Oral Abstract

### Neoadjuvant chemotherapy in epithelial ovarian cancer: Largest single institute experience

**Siva Kumar**

**Cancer Institute (WIA), Chennai, Tamil Nadu, India**

**Purpose:** Neoadjuvant chemotherapy followed by interval debulking surgery (IDS) is an alternative treatment option, compared to the current standard of care primary debulking surgery for treating advanced epithelial ovarian cancer (EOC). We present our institute experience of neoadjuvant chemotherapy strategy in the management of EOC which is one of the largest single institute experience.

**Methods:** This is a retrospective analysis of patients with epithelial ovarian cancer who were treated in our institute between 2000 and 2006. Patient with advanced disease by clinical and imaging were treated with 3 cycles of neoadjuvant chemotherapy and then taken up for interval

debulking surgery (IDS) who had static or partial or complete response to chemotherapy. The remaining chemotherapy is delivered after the surgery. Patient who had limited disease had primary debulking surgery and then adjuvant chemotherapy according to institute protocol. Outcomes in terms of disease free and overall survival were analysed.

**Results:** This retrospective analysis included 59 patients with limited disease who had primary debulking surgery and 283 patients with advanced disease who received neoadjuvant chemotherapy. The median age was 50 years and majority are in the 50-59 years age group. Age more than 60 years represent 14.5%. Postmenopausal women were 55.3% and premenopausal women were 44.7%. Multiparity is higher 70.2% than the uniparity 16.4% or nulliparity 11.7%. Abdomen distension 42% and pain 25% are the most common symptoms. Advanced stage was the most common presentation 71% with stage III-56.1% and stage IV-14.9%. Among the neoadjuvant chemotherapy group 126/283 (44.5%) had optimal cytoreduction, 44/283 (15.5%) had suboptimal cytoreduction and 113/283 (40%) not suitable for IDS. The 5 year disease free and overall survival was 30.8% and 41.5% in the NACT group with advanced disease and 58.5% and 75.8% in the primary cytoreduction group who had limited disease respectively. The 5 years overall survival among the IDS group with optimal cytoreduction was 57.1% and 11.7% for the suboptimal cytoreduction group. The 5 years survival was not affected by the number of neoadjuvant chemotherapy cycles delivered before surgery in the IDS group. Patient who received paclitaxol + carboplatin as first line chemotherapy had better survival than carboplatin alone or cyclophosphamide + cisplatin.

**Conclusion:** NACT as an alternative option to primary debulking surgery in operable EOC is still debatable. But for patient with high disease burden where optimal cytoreduction is not possible NACT strategy is a valid option. Recent randomised controlled trials from Europe had shown the noninferiority of neoadjuvant chemotherapy followed by IDS when compared to the primary debulking surgery in operable advanced EOC.

**Key words:** Epithelial ovarian cancer; interval debulking surgery; neoadjuvant chemotherapy

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## Ovary: Oral Abstract

### Malignant ovarian germ cell tumors in children: A single centre experience

**Priyanka Soni, Shalini Mishra, Sandeep Jain, Gauri Kapoor**

**Background:** Germ-cell tumors (GCT) are the commonest ovarian neoplasm in the first two decades of life.

**Aim:** To study the profile of ovarian GCT in children and their outcome.

**Methods:** Retrospective study of all cases of malignant ovarian GCT in the pediatric age (up to 18 years) was done from January 2002 to December 2015. The medical records of all admitted cases during this period were reviewed and the data was analysed with respect to age at diagnosis, clinical presentation, tumor markers, surgical stage, tumor histology, therapy, clinical course, and outcome.

**Results:** Girls with malignant ovarian GCT were seen at our institute during the study period. Out of these 25 underwent treatment. Mean age at presentation was 11.7 years (range: 3-18 years). Abdominal pain was the commonest presentation. Twelve (47.3%) had right sided disease, 11 (42%) had left sided disease and 2 had bilateral disease. Twelve cases (57.8%) were diagnosed as stage I disease, 5 (10.5%) as stage II, 7 (26.3%) as stage III and 1 (5.2%) as stage IV. Elevated AFP > 1000 was found in 9 (47.3%), elevated B-HCG (> 50) in 7 (42%) and elevated LDH (> 1000) in 7 (36.8%) patients at presentation. Twenty (73.6%) patients underwent surgery prior to chemotherapy out of which 4 (21%) patients presented after undergoing surgery at other centre. Fourteen (57.8%) patients received 4 cycles of BEP based chemotherapy, 6 (21%) received 3 cycles, 2 (10.5%) received 2 cycles and 1 patient did not receive any chemotherapy as it was mature teratoma. The most common histology was dysgerminoma in 8 (42%) patients followed by mixed germ cell tumor in 4 (21%), teratoma in 3 (15.7%), embryonal carcinoma in 2 (10.5%) and yolk sac tumor and mature teratoma in 1 patient each. Four (21%) patients had relapse on contralateral side which was salvaged. 1 patient presented with relapse who underwent only surgery outside, 1 patient had ovarian torsion. Median follow up is 27months. The event free survival rate was 78.9%.

**Conclusion:** This study confirms an excellent outcome for girls with ovarian germ cell tumor. Patients with advanced surgical stage relapsed frequently. The mainstay of treatment is fertility preserving surgery and cisplatin-based chemotherapy.

## Ovary: Oral Abstract

### Role of cancer antigen 19-9 in complex ovarian tumors

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**Background:** Cancer antigen 19-9 (CA 19-9) is a tumor-associated mucin glycoprotein antigen that may be elevated in healthy individuals as well as in patients with benign and malignant tumors. It is useful in the management of pancreatic and other gastrointestinal tumors. CA 19-9 is also elevated in benign and malignant ovarian tumors.

**Aim:** To study the pattern of serum CA 19-9 in complex ovarian tumors.

**Methods:** The study design was descriptive, based on data collected from medical records. Patients with a complex ovarian mass, who were investigated with CA 19-9 and had undergone surgery, were included in the study. The study duration was 2 years from January 2014 to December 2015. A total of 273 patients (119 benign and 154 malignant) with complex ovarian

mass and elevated CA 19-9 underwent surgery during the study period.

**Results:** CA 19-9 was elevated in 55 patients (20%). Of these, 23 patients had benign tumors while 32 had malignant tumors. Among patients with benign tumors, 21 had dermoid, 23 had mucinous tumors and 75 had other types of tumors. CA 19-9 was elevated in 10 (47.6%) of the dermoids, 7 (30.4%) of the mucinous tumors and 6 (8%) of the other benign tumors. Among patients with malignant tumors, 138 were epithelial and 16 were non epithelial tumors. Of the epithelial tumors, 31 were mucinous and 107 were nonmucinous types. Overall, 29 (21%) had elevated CA 19-9. Of the epithelial tumors, 22.6% of the mucinous type and 20.6% of the non mucinous type had elevated CA 19-9. Among the non-epithelial tumors, 3 (18.8%) had elevated CA19-9.

**Conclusion:** CA 19-9 is elevated in several conditions but most likely to be raised in dermoid cysts and mucinous tumours. CA19-9 levels need to be interpreted along with clinical and radiological findings.

## Ovary: Oral Abstract

### Single centre experience of ovarian germ cell tumours over 8 years

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**Introduction:** Germ cell tumours comprise approximately 15-20% of all ovarian tumours. Two third of ovarian tumours in first two decades of life are germ cell tumours. Majority of ovarian germ cell tumours are benign teratomas. The malignant germ cell tumours are usually solid and arise from totipotent germ cells. Over the past 3 decades the clinical outcome of women with ovarian germ cell tumours (OGCT) have significantly improved mainly due to development of more effective chemotherapy regimens.

**Objective:** To study the clinic pathological features, treatment and survival of women with ovarian germ cell tumours.

**Methods:** This is a retrospective descriptive study taken from the case files of patients with histo-pathologically proven ovarian germ cell tumours who were treated in JIPMER over 8 years from 2007 to 2014.

**Results:** There were totally 63 patients with ovarian germ cell tumours over 8 years who were treated in JIPMER. The age at presentation varies from 12 years to 65 years with a median age of 26.5 years. Three were pre pubertal and 1 was post-menopausal. Twenty two women (34%) were unmarried and 5 were pregnant at the time of presentation. Forty eight (76%) of them did not have any menstrual abnormalities. Pain abdomen (55%) was the most common presentation. Ten of them presented with acute abdomen of which 8 were torsion, 1 was ruptured dermoid and 1 was infected dermoid. Another 6 patients had torsion which was diagnosed only during surgery. Majority (68%) were benign tumours (dermoid) and among malignant tumours, there were 6 dysgerminomas, 5 immature teratomas, 5 mixed germ cell tumours and 4 yolk sac tumours. Almost half (22 out of 43) of women with benign tumours were < 25 years whereas 3/4<sup>th</sup> (14 out of 20) of women with malignant germ cell tumours were < 25 years. The most common tumour marker which was elevated was alpha fetoprotein (8) followed by LDH (5). Fertility sparing surgery (salpingo-ovariotomy) was commonly performed which was 95% (41/43) in benign tumours and 60% (8/20) in malignant tumours. Contralateral ovary was biopsied in only 5 patients with suspected involvement (negative on final HPR). Out of 20 women with malignant ovarian tumours 7 were in advanced stage (Stage III). Majority of them recovered well from surgery, only 12% had post-operative febrile morbidity and one patient had subclavian vein thrombosis on post op D9 which required anticoagulants. 7 of 20 women received chemotherapy (BEP) for 4 cycles. No serious side effects of chemotherapy were noted in these women. 3 out of 20 women with malignant germ cell tumour were lost to follow up. No recurrences have been found in rest of the women and there are no deaths till last follow up.

**Conclusion:** Advances in the field of medicine like effective chemotherapy regimens, improved imaging, precise surgical staging and fertility sparing surgical procedures enable women not only to preserve the reproductive function but also to improve their quality of life.

## Ovary: Poster Abstract

### Cystic adnexal lesion on USG – causing a diagnostic dilemma in oncology institute

**Abhinav Aggarwal**