all correlated independently ($p < 0.05$) with pelvic control. Grade * genito-urinary and gastrointestinal late toxicities were seen in 1% and 4.5% of the pts, respectively.

**Conclusion:** HDRB, using a relatively small number of fractions, is well tolerated and results in similar outcomes of HDRB using larger number of fractions or low dose rate brachytherapy. Long-term follow-up demonstrates that 5-year survival rates may not reflect the true outcome of these pts, as a number of them will eventually present with tumor recurrence at a late date. Stage, age and therapy duration have a significant impact in overall survival and pelvic disease control.

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## A phase II study of docetaxel, epirubicin, and cisplatin with G-CSF (lenograstim) support in patients with advanced ovarian cancer

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**Background:** To evaluate the efficacy and safety of the combination therapy docetaxel (T), epirubicin (E) and cisplatin (P) in the treatment of ovarian cancer in a phase II study.

**Materials and methods:** Main eligibility criteria were: histologically proven epithelial ovarian cancer stage Ic-IV, age 19-70, ECOG performance status (PS) $\leq 2$ and adequate organ function. Based on an earlier dose-finding study, on Day 1 every 3 weeks, patients with PS 0-1 received T 75 mg/m$^2$, E 75 mg/m$^2$ and P 75 mg/m$^2$; patients with PS 2 received T 75 mg/m$^2$, E 50 mg/m$^2$, and P 75 mg/m$^2$. G-CSF (lenograstim) 150 $\mu$g/m$^2$ sc was given on Days 2-11. In patients where primary debulking was inadequate, secondary debulking surgery was scheduled after 3-4 cycles of chemotherapy. Patients were treated for a minimum of 6, and a maximum of 9 cycles of chemotherapy. Second look was scheduled in the event of a clinical complete remission (cCR) to verify histological complete remission (HCR), which was the primary study endpoint.

**Results:** A total of 87 patients (median age 65 years) were enrolled; 5 patients were excluded from the efficacy analysis due to protocol violations, but were included in the safety analysis. Stage Ic-II was found in 17% of patients and stage III-IV in 83% of patients. In 50% of patients, primary surgery resulted in residual lesions $\leq 2$ cm. Fifty-seven (70%) patients achieved cCR. A second-look laparotomy was performed in 48 patients, which confirmed HCR in 35 patients (43%). At a median follow-up of 30 months, 45 (55%) patients developed progressive disease and 27 (33%) patients had died. The median progression-free survival was 23 months. The estimated 3-year survival rate was 64% (95% CI: 50%-77%). Grade 3-4 neutropenia was the most frequently reported haematological toxicity, occurring in 62 (71%) patients; however, only 8 (9%) patients suffered febrile neutropenia. Grade 3-4 nonhaematological toxicities were nausea/vomiting (21%), hypomagnesaemia (26%), diarrhoea (9%), and fatigue (8%). Grade 3 neurosensory toxicity occurred in 4.6% of the patients.

**Conclusion:** The combination TEP is active in ovarian cancer with an acceptable toxicity profile. Final results will be presented at the meeting.

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## Uterine papillary serous and clear cell carcinoma: analysis of the impact of pelvic radiation therapy in early stage disease

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**Purpose:** Uterine papillary serous carcinoma (UPSC) and uterine clear cell carcinoma (UCC) are well recognized subtypes of endometrial cancer associated with aggressive spread and worse prognosis. Our goal is to analyze the outcome of these patients, with a focus on the impact of locoregional therapy on early stage patients to better define optimal therapeutic guidelines.

**Materials and Methods:** Clinical and pathologic data were gathered on 424 patients with uterine cancer treated between 1996-2002. A total of 41 patients with UPSC and UCC were identified, 28 UPSC and 13 UCC. Of these patients, 19 were found to have early stage disease (IA-IIA). Of those with stage I/II disease, 14/19 patients received extended surgical staging and 13/19 patients received adjuvant radiation therapy directed at the whole pelvis to a dose of 45-50.4 Gy. Among the remaining 6 patients: 3 were stage IA and was offered no adjuvant therapy, 1 patient was stage IA and received brachytherapy alone to the vaginal cuff, and 1 patient was stage IB and discontinued external beam radiotherapy after 10.8 Gy. Twenty-four patients presented with stage III/IV disease and received chemotherapy as primary treatment.

**Results:** The 5-year actuarial disease free survival (DFS) for stage I/II pts was 79.3% with overall survival (OS) being 100%. Sites of failure in these patients included pelvic lymph node metastasis in two patients (stage IC and IIA with UCC) and a vaginal cuff recurrence in one patient (stage IB UPSC). No distant metastasis were observed in early stage patients. Lymphovascular invasion was not found to have a significant impact on DFS in stage I/II patients. When analyzing all stages, the 5-yr actuarial DFS and OS were 48.3% and 83.2%, respectively. Sites of failure in stage III/IV patients included isolated in-field pelvic failures in 4/24 patients (16.7%), concomitant in-field and distant failures (i.e., outside of pelvic radiation field) 3/24 patients (12.5%), and distant failures alone in 4/24 patients (16.7%).

**Conclusions:** Early stage disease can achieve excellent locoregional control with the addition of adjuvant whole pelvic radiotherapy following complete surgical staging, with the exception of stage IA patients where observation after surgery appears reasonable. Furthermore, one could also consider administering pelvic radiotherapy with concurrent systemic therapy in more advanced stage disease to reduce isolated pelvic relapses.

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## The necessity of treatment planning and optimisation in each high dose rate brachytherapy fraction using tandem and ovoids

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**Aim:** To detect the change of applicator geometry and its effect on rectal (R) and bladder (B) dose, between Ir192 High Dose Rate (HDR) Brachytherapy (BT) fractions in patients with cervical carcinoma.

**Methods:** HDR BT using Tandem (T) and Ovoid (O), performed by the same physician, after completion of 40 Gy external radiotherapy. The same procedure of anaesthesia was done in all fractions of each patient. Applicators were fixed to each other and the coach. Reference volume, R and B dose calculations performed according to ICRU-38 recommendations. Treatment planning and optimisation was done in each fraction. In order to obtain the changes of applicators positions, pelvic bony landmarks were accepted as constant points; applicators (T, left O, right O), B and R reference points were accepted as inconstant points. The distances between constant and inconstant points were measured in x, y and z axes and the differences were calculated. The magnitudes of the displacements in three planes were used to calculate the resultant vector. The relation between the initial tumour size and the magnitude of resultant vectors were also examined. To see whether the change of applicator position has an effect on calculated R and B doses, active source position and treatment time of first fraction was repeated for subsequent fractions of each patient. Then, difference between first and subsequent hypothetic R and B doses were calculated, changes were compared with the initial tumour size. The relation between the magnitude of displacement of applicators and the calculated hypothetic doses were examined.

**Results:** Average magnitude of displacement of inconstant points in x, y and z axes were between 2,0 and 16,9 mm. Resultant vectors of displacement were between 10,0 and 19,4 mm. There was no significant relation between the initial tumour size and the magnitude of resultant vectors of Left O, Right O, T, R and B ($p>0.05$). The mean differences of hypothetical B and R doses were between 78-149 cGy, and 70-84 cGy respectively. No relation was seen between changes in subsequent R and B doses, and initial tumour size. Magnitude of resultant vectors and changes in calculated doses showed no correlation ($p>0.05$).

**Conclusion:** There were significant variation in B and R positions and doses between BT fractions, which is confirming the necessity of treatment planning and dose calculation in each HDR BT fraction using tandem and ovoids to treat locally advanced cervical carcinoma.