grade endometrial stromal sarcoma – 45.1+8.3%; carcinosarcoma – 27.2+6.0%. Sarcomas of the ovaries have extremely poor prognosis.
Conclusion: According to our data, the optimal surgery for leiomyosarcoma is hysterectomy in the reproductive age and hysterectomy with bilateral salpingo oophorectomy in the postmenopausal period; low-grade endometrial stromal sarcomas – radical hysterectomy with bilateral pelvis lymphadenectomy; high-grade endometrial stromal sarcomas – radical hysterectomy with bilateral pelvis lymphadenectomy and omentectomy, due to the high rate of metastasis in retroperitoneal lymph nodes (20%), ovaries (19.6%), great omentum(22%).

940 POSTER

The prognostic significance of volumetric evaluation by magnetic resonance imaging in radiotherapy for patients with cervical cancer

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Background: To investigate the prognostic significance of tumor volume response using MRI for volumetrically assessment for patients with cervical cancer.
Methods and Materials: From March 1997 to August 2002, 54 patients who were treated with radiotherapy for cervical cancer were evaluated. All patients were given external beam radiotherapy over the whole pelvis (median 50.4 Gy) and intracavitary brachytherapy. All patients had taken three serial MR examinations at the start of radiation therapy (pre-RT), at 4 weeks after the start of radiotherapy (mid-RT), and 1 month after treatment completion (post-RT). Tumor volume was calculated by summation of all the areas of tumor and multiplying by the slice profile using T2-weighted images of each MR examination. Follow-up scored from the start of radiation treatment range from 4 to 84 months (median: 42 months).
Results: Mean tumor volumes in MR images at pre-RT, mid-RT and post-RT were 51.3 cc (from 1.1 to 153.1 cc), 13.5 cc (from 0 to 66.0) and 2.2 cc (from 0 to 42.7 cc) respectively. In mid-RT MR images, the number of patients who had complete remission (CR), partial remission and stable disease were 9 (16.7%), 38 (70.4%) and 7 (13.0%) respectively. In post-RT MR images, the number of patients who had CR and non-CR were 39 (72.2%) and 15 (27.8%). The incidence of recurrence was 33.3% (loco-regional failure: 11.1%, distant metastasis: 25.9%). In mid-RT MR images, the incidence of recurrence was 0% in patients with CR compared with 40.0% in those with non-CR (p-value = 0.0218) and the 4-year disease-free survival was 100% and 58.9%, respectively (p-value = 0.0369). In post-MR images, the incidence of recurrence was high in patients with non-CR (53.3%) compared with the patients with CR (25.6%) (p-value = 0.0532) and the 4-year disease-free survival was 53.3% and 69.9% respectively (p-value = 0.0515). The tumor response in mid-MR images affected significantly by clinical staging and initial tumor volumes. According to FIGO stage I, II and III-IV the rates of CR were 57.1%, 11.8% and 7.7% respectively (p-value = 0.0203) and the rates of CR were 38.9% and 5.6% in less than 32 cc and more than 32 cc of initial tumor volume respectively (p-value = 0.0041). In post-MR images, initial tumor volume was only significantly correlated with the tumor response (p-value = 0.0099, less than 32 cc: 94.4%, more than 32 cc: 61.1%).
Conclusion: In clinical practice, the evaluation of the volume response on MR images during radiotherapy may be helpful in determining the radiation dose and the timing of brachytherapy to increase the tumor regression after radiotherapy.

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Late severe complications in advanced cervical cancer treated by concomitant high dose rate brachytherapy and external radiotherapy

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Introducing: Depending on its tradition or infrastructure each center applies different treatment regimens. The aim of this retrospective study was to assess the influence of the treatment regimens on late severe complications in treatment of advanced cervical cancer by concomitant external beam radiotherapy and high dose rate brachytherapy.
Material and methods: A retrospective analysis of 151 patients with FIGO stage IIB-IV carcinoma of the cervix treated by radiotherapy during 1993 and 1995 was done. Radiotherapy for all patients included doses of 46–50 Gy of 6–10MV external fotons to pelvis in 22–24 fractions. Depending of infrastructure a group of 68 patients were treated brachytherapy (BT) with Ir-192 HDR stepping source and 83 patients were treated by Co-60 HDR fixed source. Brachytherapy (dose and volume evaluation Level 1) was delivered in 5 applications and 7 Gy-8 Gy to the point A, to a dose of 35–40Gy. An applicator with two vaginal and one intrauterine source carrier(s) is used. Central shielding was designed after 20 Gy of pelvis irradiation, for a certain doses of external radiotherapy (50 Gy) or for applied BT doses of 40 Gy at the point A.
Results: Late severe complications Grade 3+4 (French-Italian glossary) were determined in 13.2% (20/151pts), G3 11.26% and G4 1.99%, for the follow-up period of 5 years, seen at the rectosigmoid, the bowel and bladder. A correlation of complications with stage of disease and dose including pelvis dose and BT dose was studying. Occurrence of G 3+4 complications was in St. II 10.6% (8/75pts) in St. III 16.9% (11/65pts) in St. IVa 9% (1/11pts). The high percentage of complication 33.3% (5/15pts) was found in a case of dose escalation: external radiotherapy dose of 50 Gy/24f and BT dose of 40 Gy/5f to pint A(with central shielding) and 19.2% (5/26pts) if external dose of 46 Gy/22f and BT dose of 40Gy to point A was given. The acceptable percentage of severe complication 9.1% (10/110pts) was found in most frequent dose schedules: external beam dose of 46Gy/22f and BT dose of 35 Gy/5f to point A.
Conclusion: In high dose rate BT an increase in dose might increases the injury to late – responding tissue at the Level I dose and volume evaluation. Central shielding in a case of increased total given dose, can't reduce the developing of late sever complication. With the sophistication of dose delivery it might be improved treatment planning and this should allow dose escalation with sparing of normal tissue.

942 POSTER

Estimated annual number of Pap III and Pap IV patients and associated resource use in the pre-HPV vaccine era in Germany

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Background: Human Papillomavirus has been implicated in the etiology of cervical neoplasia. Despite recent advances in screening and treatments, cervical cancer remains an important public health problem. The study aim was to assess the resource use associated with the diagnosis and management of patients with Pap III and IV, in the pre-HPV vaccine era in Germany.
Methods: A retrospective multicentre observational study was conducted with 43 gynecologists (79% private; 15% public; 6% both sectors). The study included patients diagnosed with Pap III/IIID or IV/IVa/IVb (N = 99) between February and March 2004.
Resource use: Clinical and resource use data were collected for a maximum period of one year (February 2004–2005). Resources included consultations, medications, interventions, diagnostics and length of hospital stay for Pap III and IV as well as adverse events.
Extrapolation to Germany: The average number of Pap III and IV cases per gynecologist was multiplied by the total number of gynecologists in Germany to obtain the total annual number of cases.
Results: The majority of patients had Pap III (n = 87; 88% vs. n = 12; 12% with Pap IV). The average age of patients was 39 years (22–75 years). The mean duration of treatment was 5.7 months (5.5 vs. 7.3 for Pap III and IV respectively), during which time patients had a mean of 4.19 consultations with gynecologists (4.1 vs. 5.1 for Pap III and IV respectively). The most common diagnostic tests used were Pap-smears (99%) and colposcopy (59%). Typically patients were treated by conisation (21% of Pap III vs. 67% of Pap IV) or hysterectomy (2% of Pap III vs. 25% of Pap IV). The average length of hospital stay for the treatment of Pap III was 0.9 days versus 7.6 days for Pap IV.
The total annual number of cases of Pap III was estimated at 238,381 and 34,587 for Pap IV.
Conclusion: The principal differences in the management and resource use of Pap III and IV were due to the significantly higher numbers of patients with Pap IV receiving surgical treatment, and having longer hospitalisations. The pre-cancer stages Pap III and IV are caused by HPV types 6, 11, 16 &18, and 16 & 18 respectively. There is evidence that using a vaccine targeting the most prevalent oncogenic HPV types (i.e. 16 and 18) could avert two-thirds of cervical cancer cases, and potentially decrease the economic burden of the disease. The impact of an HPV vaccine on the socio-economic burden of pre-cancerous cervical lesions needs further investigation.