significant. The available data show no indication for enhanced radiation toxicity.

Conclusions: It was concluded to offer combined treatment standard to patients with tumours of the uterine cervix, and to develop new study protocols for patients with bladder and rectal cancer.

930 ORAL

Phase II multicentric trial of neoadjuvant bleomycin, ifosfamide and carboplatin (BIC) in locally advanced cervical cancer

A.M. Murad, S.A. Triginelli, R.C. Guimarães, B.C. Aragão, O.X. Gonçalves, L.C. Lima. *Oncology Department, Hospital das Clínicas, Universidade Federal de Minas Gerais e CEPON, Florianópolis, SC, Brazil*

Purpose: Based upon the very good results in terms of objective response (OR) and paliation with the use of BIC protocol in the treatment of patients with advanced cervical cancer (Murad et al J Clin Oncol 12: 55–59, 1994) besides the inadequate results obtained by neoadjuvant chemotherapy (CT) and radiotherapy (XRT) in this setting, we started this prospective trial in April, 1994, aiming to determine the efficacy of neoadjuvant BIC before radical surgery in previously untreated patients with locally advanced squamous cell carcinoma of the cervix.

Methods: Patients with stage IIB, III and IVA, CT and XRT naive, were assigned to receive 30 mg of B i.v. bolus on day 1; 200 mg/m2 of C i.v. on day 1; and 2 g/m2 of I in a 2 hour i.v. infusion days 1–3. The cycles are repeated every 28 days on an outpatient basis. After 3 cycles, if OR is confirmed by clinical/radiological evaluation the patient receive one more cycle of BIC and then go to surgery (radical hysterectomy). Only patients with positive linphnodes or positive surgical resection margins receive consolidation XRT. Stable and progressive disease are treated with standard XRT.

Results: Up to now 24 patients were accrued. 3 refused surgery after CT, although attaining OR. 20 are now eligible for response assessment: stage IIB barrel shaped: 2 (10%), IIIA: 1 (10%), IIIB: 14 (70%), IVA: 5 (25%). Response after CT: OR-4 (70%) (95%CI:49%–90%); CR-5 (25%) and PR-9 (45%). All 14 responders went to surgery: 12 (60%) attained substantial tumor regression and had a potentially curative surgery. One patient attained CR pathologically documented: no tumor was found in the surgical specimen. In 2, stable or unressectable disease were documented. Only 3 patients received consolidation XRT. The median recurrence-free survival has not been reached so far. The 34 month recurrence-free survival is 50%. Almost all patients had nausea and WHO G3 alopecia. Anemia G1 were documented in 28 (37%) cycles, G2 in 6 (8%) and G3 in 4 (5%); leukopenia G1 in 8 (10%) and G3 in 1 (1.3%); thrombocytopenia G1 in 1 (1.3%), henaturia G2 in 2 (2.6%); vomiting G2 in 24 (32%), G3 in 2 (2.6%); infection G1 in 2 (2.6%. No death or G4 toxicity were observed.

Conclusion: These preliminary data are very exciting and promising, suggesting that 60% of the patients with locally advanced cervical cancer can have a potentially curable surgery after primary BIC CT, with a very acceptable toxicity profile. Accrual onto this study continues.

931 POSTER*

Postoperative radiotherapy for cervical carcinoma stage Ib and IIa with positive iliacal lymph nodes; A national case-study

H.A. van den Berg, M.J.J. Olofsen-van Acht, J.P.C. van Santvoort, M. Seven, S. Quint, P.C. Levendag. *Dept. of Radiation Oncology, Daniel den Hoed Cancer Center, Rotterdam, The Netherlands*

Purpose: To assess the variation in treatment portals for postoperative radiotherapy for stage Ib and IIa N+ cervical carcinoma.

Methods: Radiation Oncologists (RO; n = 17) from all Radiotherapy Institutes in The Netherlands were asked to delineate treatment portals on a lateral and anterior simulation film in case of radiotherapy following a radical hysterectomy with lymphnode dissection for stage Ib and IIa cervical carcinoma with positive iliacal lymph nodes. They also depicted the clinical target volume (CTV). A planning target volume (PTV), using 47 normal lymphangiograms and CT-data of the pelvis of 15 patients was defined. Subsequently all simulation films of the 17 RO were digitized and planned and evaluated for adequacy in covering the reference PTV.

Results: Major variations were observed in shapes and sizes of the portals and the used treatment techniques. In 31% of the cases the PTV was not irradiated according to their own dose prescriptions. Twenty-five percent of the treatment plans did not cover the PTV at the lateral borders of the parametria in the AP direction, assuming a margin of 5 mm or more between PTV and field border.

Conclusions: In this study there appears to be no consensus on the areas to be irradiated. Also, if the defined PTV, based on lymphangiograms and CT-data, is taken as a reference, in 25% of the cases the PTV was inadequately covered.

932 POSTER

Expression of cripto-1, a new ligand of the EGF superfamily, in gynecological carcinomas

A. Ebert[1], J. Reinhold[1], J. Stieler[1], W. Pritze[1], D.S. Salomon[2], H. Weitzel[1], G. Schaller[1], R. Brandt[3]. [1]*Free University Berlin, Medical Center Benjamin Franklin, Department of OB/GYN, Germany;* [2]*National Cancer Institute, LTBI, Growth Factor Section, Bethesda, USA;* [3]*Dept. CDD Technology, Ciba-Geigy AG, Basel, Switzerland*

Purpose: The expression of CR-1 was analyzed on the background of clinical staging and grading in endometrium, ovarian and cervical cancers.

Methods: The expression of CR-1 was examined by immunohistochemistry in paraffin-embedded tumor tissue samples from 25 patients with endometrial cancer (EC), 25 with cervical carcinomas (CC) and 31 with ovarian cancer (OC). A high protein specific polyclonal Ab against human Cripto, the APAAP staining method and a immunreactive score (IRS) were used.

Results: 60% of EC, 71% of OC and 72% of squamous CC expressed CR-1. The expression was not stage dependent. Most of G2 ECs (85.7%) expressed CR-1. A positive correlation between the expression of CR-1 and the grading seems to be possible in CC. CR-1 was significantly overexpressed in G2 tumors (92.3%) than in G3 tumors (36.4%). In OC, G3 tumors (78.6%) expressed significantly more CR-1 than G2 tumors (64.3%)

Conclusions: Previous studies have shown that CR-1 is overexpressed in many colorectal, gastric, breast, ovarian and pancreatic malignancies. In the present study about 70% of the common gynecological carcinomas were CR-1-positive. CR-1 seems to be a new interesting factor with clinical relevance (prognostic value, LN spreading, tumor biology) in gynecological oncology.

933 POSTER

Efficacy of supplementary treatment with isotretinoin combined with interferon-alpha-2a in primary radiotherapy of cervical cancer – Results of a clinical phase-II-study

U. Köhler[1], G. Füchsel[2], G. Hänsgen[3]. [1]*Department of Gynecology, University of Leipzig;* [2]*Department of Gynecology;* [3]*Department of Radiotherapy, Martin-Luther-University Halle, Germany*

Purpose: Irresectable cervix cancer (stage FIGO IIb–IIIb) is normally treated with combined radiotherapy (percutaneous/afterloding). Several previous in-vivo- and in-vitro tnals suggest an improvement of radiosensitivity by adding retinoids and interferon-alpha in squamous cell cervical cancer.

Methods: In a pilot study three different departments of two university-hospitals recruited 33 women (34–84 years) with SCCC (stage IIb–IIIb) within 9 months. All women received 6 Mio I.U. Interferon-alpha-2a (Roferon ®) s.c./daily and 1 mg/kg/bw Isotretinoin (Roaccutan ®) p.o./d for 12 days prior to radiotherapy. During radiotherapy all dosages were decreased, to prevent toxic side effects:

Interferon 3 Mio I.U. three times weekly s.c. and Isotretinoin 0.5 mg p.o. daily were administered until the maximum dosage of irradiation was reached (52–54 Gy). All patients were treated successfully.

Results: Preliminary data are as follows: 29 patients were totally evaluated, 4 patients are under therapy or evaluation.

CR occurred in 26 patients, PR in 3 patients. Almost all patients tolerated the treatment well, toxicity was mild (flu-like symptoms, skin dryness, reversible elevated liver enzymes, increased tumor vulnerability). WHO-Grade IV side effects were not observed. Long-term effects cannot be stated yet.

Conclusion: Further analysis (i.e. follow-up and randomized regimens in future) is necessary.