

with B Dukes cases since it contributes to identify a subset of patients that may benefit from adjuvant therapy.

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POSTER

Anal carcinoma: Regional recurrences dependent on target volume of sphincter-sparing radio-/chemotherapy

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Purpose: Different volumes are published for radical RT of anal ca. Including only the small pelvis into the ref vol., we examined whether this PTV is sufficient enough for the prevention of pelvic recurrences (REC).

Patients: From 1979-Oct 1996, 80 pts (56 f, 24 m, median age 66 yrs) with anal ca were treated for sphincter sparing with RT (80 pts) and ChT (52/80): T1 19 pts, T2 34 pts, T3 21 pts, T4 5 pts, N1-3 14 pts; 55 with biopsy, 21 with excision and 4 with LN-excision. RT was mostly given with two parallel opposed fields, SD 1.8 Gy, TD 45 Gy, with concomitant ChT in week 1 (5-FU 1000 mg/m², d 1-5; Mito-mycin-C 10 mg/m², d 1) and 5 (5-FU 1000 mg/m², d 29-34). For 48 pts, interstitial LDR-brachytherapy (BT) was used as a boost, but replaced 1995 by endocavitary HDR-BT (14 pts). 15 pts had an e-boost. The time gap of 6 wks between RT and boost was changed to two wks after 1990.

Results: 17 out of 80 pts developed a loco-regional REC. 11/17 pts had a local REC, 5/53 T1/2 tumours (9.4%) and 6/26 T3/4 tumours (23%). Shortening the treatment time reduced the REC-rate, $p = 0.06$. 11/17 pts had a regional REC (5x with local REC). Two inguinal and one presacral REC were not covered by the PTV. All pelvic RECs developed inside the PTV, i.e. inside the small pelvis, below the iliac bifurcation.

Conclusions: The PTV, covering only the small pelvis, has proved to be sufficient in preventing pelvic regional recurrences. There was no pelvic recurrence outside this volume.

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POSTER

Immuno-chemoembolisation in the treatment of colorectal livermetastasis

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Introduction: Intra-arterial chemotherapy of colorectal livermetastasis leads to an elevation in cytostatic drug concentrations and higher remission rates. The aim of this study was to evaluate the efficiency of a combination of intra-arterial immunotherapy and chemotherapy. In order to activate the hepatic immunsystem we used Granulocyte-Macrophages Stimulating Factor (GM-CSF) intra-arterially.

Methods: Up to now we treated 34 patients (28 male/6 female) with isolated colorectal livermetastasis by two cycles of intra-arterial immuno-chemoembolisation. 12 out of 34 patients were previously treated by systemic chemotherapy and two patients by regional chemotherapy. Treatment consisted of 150 mcg GM-CSF applied at day one and two, 1000 mg 5FU applied on day three and four and 40 mg melphalan as embolisation in combination with lipiodol and gel-foam via an angiographically placed hepatic-artery system. Treatment free interval was 28 days, re-evaluation for remission was done four weeks after the second cycle according to WHO-criteria.

Results: In 34 patients we saw 5 complete remissions, 5 CR after downstaging and resection and 20 PR. In two cases there was a stable disease leading to an overall remission rate of 89%. Sideeffects were usually low and acceptable mostly correlated to chemoembolisation with vomiting 13.5%, abdominal pain 17.3% and transient elevation of the liver enzymes 13.5%. Interestingly there was a very low rate of leucopenia not exceeding WHO-grade II of 3.9%. One year survival rate is 92%.

Conclusion: The intra-arterial application of GM-CSF in combination with cytostatic chemotherapy is possible without any strong local or systemic side effects. This method leads to a high local remission rate. Further studies have to evaluate the efficiency of intra-arterially applied GM-CSF for the hepatic immunsystem leading to a higher level of cytokines in the hepatic tissue.

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POSTER

Peritoneal carcinomatosis treatment with curative: Institut Gustave-Roussy experience

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Purpose: The aim of this study is to report the results of a phase II study in which the PC was treated with complete cytoreductive surgery associated with the treatment of the residual microscopic disease by immediate intraperitoneal postoperative chemotherapy (IIPC) for five days (Mitomycin®, Fluorouracil®, Adnamycin®, and Platinol®).

Methods: Fifty-four patients with a PC from miscellaneous origins were treated between January 1993, and April 1996. The PC was important (clinically evident), but extraperitoneal localization free, in 29 cases. The PC was fortuitously discovered during a laparotomy for extraperitoneal cancer localization in 25 cases. Operative time was 7:21 hours, associated with extensive peritonectomies, and resection of invaded organs (4 organs per patient). IIPC was complete (5 days) in 91% of patients.

Results: Three postoperative deaths (5.5%) were reported. Morbidity was present in 61% of patients, and was related to surgical extension ($p < 0.001$). Two-years survival of 50% was correlated with the importance of the PC ($p < 0.01$), and was the same for both groups of patients (isolated PC vs. moderate PC associated with extraperitoneal localization). PC recurrence rates were 30% at two years.

Conclusion: Complete cytoreductive surgery associated with IIPC is a logical and promising treatment of PC. However, it appears that: it is a heavy treatment for patients (and physicians), and its lawfulness will be proved only after a randomized study (currently going).

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POSTER

Intraoperative radiotherapy (IORT) for recurrent rectal carcinoma

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Purpose: Curative treatment for recurrent rectal carcinomas is possible in less than 10%. A multi-modality treatment using IORT was evaluated.

Materials and Methods: A total of 31 patients suffering from a recurrent carcinoma in the pelvis had IORT (minimum follow-up 18 months). Multi-visceral or anterior resection ($n = 8$) yielded a R0-resection in 16 pat. In equally 8 pat. microscopically or macroscopically residual tumor remained. The mean IORT-field size was 7.4 (5-13.2) cm, the mean IORT-dose 13.7 (10-20) Gy. External beam radiotherapy (EBRT) was given with 41.4 Gy (1.8 Gy SD) either preoperatively ($n = 21$) or postoperatively ($n = 10$). 22 pat. had simultaneously chemotherapy.

Results: After a median follow-up of 28.2 months 8 pat. died due to progressive disease, 1 pat. died without tumor, 8 pat. suffered from a second local failure, while 3 of these patients developed additionally distant metastases. 7 pat. had distant metastases alone. After non-complete resection the failure rate was significantly higher, due to a higher distant metastases rate (20% vs. 62%). The actuarial 5-year-overall survival was 55% for the entire patient group.

Conclusion: Compared to historical controls local tumor control and overall prognosis was improved. Locally restricted dose application with IORT offers optimum normal tissue sparing to further improve the benefit of multi-modality treatment strategies.

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POSTER

A seven-years experience with implantable devices for regional hepatic arterial chemotherapy: Usability time, incidence and management of complications

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Background: The successful delivery of chemotherapeutic drugs through an implantable hepatic arterial device depends on the surgeon's understanding of hepatic arterial anatomy, proper cannulation technique and operative as well as postoperative measures to decrease the occurrence of complications. We reviewed the usability of hepatic arterial ports at our department.

Methods: Between March 1st, 1989 and December 31st, 1996 we placed 123 implantable hepatic arterial devices in 95 patients with primary