isolated liver metastases (r = 0.96, p = 0.002). Likewise in studies with non-selected patients, the resection rate of metastases also was associated with the objective response rate (r = 0.74, p < 0.001).
Conclusion: Patient selection and efficacy of pre-operative chemotherapy are both strong predictors for resectability of liver metastases. Resectability is a novel endpoint focusing on the curative potential of treatment compared with classical endpoints of response or progression free survival that are important if palliation is the aim. Therefore, patients with potentially resectable liver metastases should be investigated in special trials and interdisciplinary teams.

691 PUBLICATION

Tissue inhibitor of metalloproteinases 1 (TIMP-1) as an immunohistochemical marker for colorectal cancer

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Background: TIMP-1, which is an endogenous inhibitor of the proteolytic activity of matrix metalloproteases (MMP) is present in elevated concentrations in plasma from colorectal cancer patients, and is a promising circulating marker for use in the early detection of colorectal cancer. In addition, measurement of plasma TIMP-1 has been suggested as a tool for prognostic separation of patients with early stage colorectal cancer. Recent studies based on *in situ* hybridisation and immunohistochemistry (IHC) have demonstrated that TIMP-1 mRNA and protein is expressed infibroblast-like cells in the invasive front of colorectal adenocarcinomas, while seen only sporadically in normal mucosa.
Aim: The aim of the present study was to investigate if detection of TIMP-1 by IHC can be used for the early diagnosis of colorectal cancer.
Materials and methods: The presence of TIMP-1 was studied in paraffin-embedded archival colorectal adenoma (n = 77) and adenocarcinoma (n = 46) samples obtained from The University Hospital of Odense, Denmark. An indirect IHC technique was employed by using the monoclonal mouse antibody from clone VT-7 and the ChemMate™ EnVision™ Detection Kit from DakoCytomation. Pre-treatment of the tissue was performed using a heat induced antigen retrieval protocol including DakoCytomation's Target Retrieval Solution (S1700). Negative control antibodies matched the isotype and concentration of the VT-7 antibody.
Results: A distinct TIMP-1 immunoreactivity was observed in scattered fibroblast-like cells localized to the invasive front of the majority of the colorectal carcinomas, whereas TIMP-1 immunoreactivity in tumor cells was only seen in a few cases. Furthermore, the IHC showed a pale immunoreactivity of some of the epithelial cells in the adenomas and also a few single epithelial cells in the normal mucosa. The negative control antibodies displayed no staining.
Conclusion: This study confirms the expression of TIMP-1 protein in the fibroblast-like cells in association with invading colon cancer cells. It also shows that while most adenocarcinomas show TIMP-1 immunoreactivity in the stromal cells of the tumors, no stromal TIMP-1 immunoreactivity was observed in the adenomas. These data suggest that stromal TIMP-1 immunoreactivity may be used as a mean to distinguish between adenocarcinomas and adenomas of the colon.

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Preoperative chemoradiation in rectal cancer: retrospective comparison between capecitabine and continuous infusion of 5-Fluorouracil

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Background: We compared the efficacy and toxicity of oral capecitabine and continuous infusion of 5-fluorouracil (5-FU) in the preoperative chemoradiation treatment of patients with rectal cancer.
Patients and Methods: The files of 89 patients with rectal cancer, 43 treated preoperatively with oral capecitabine and 46 with intravenous 5-FU, were reviewed, and the outcome of the groups was compared.
Results: There was no statistically significant difference in the complete pathological response rate between the capecitabine and the 5-FU group (30% vs. 17%, p = 0.15). The downstaging rate was higher in the capecitabine group (77% vs. 50%, p = 0.009). Toxicity was mild in both groups. The rate of grade 3 gastrointestinal toxicity was similar in the two groups (diarrhea 2% vs. 4%, proctitis 5% vs. 7%), except for one patient in the 5-FU group (2%) who developed a rectovaginal fistula. In the capecitabine group, one patient (2%) had grade 3 hand–foot syndrome, and another had an acute myocardial infarction. In the 5-FU group, 2 patients (4%) had grade 3 hematological toxicity, and 3 (6%) had complications from Port-a-Cath insertion.
Conclusion: Preoperative chemoradiation with oral capecitabine appears to be safe and well tolerated, and at least as good as continuous 5-FU for the neoadjuvant treatment of rectal cancer.

693 PUBLICATION

Preoperative neoadjuvant radiochemotherapy for rectal adenocarcinoma

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Purpose: To evaluate retrospectively the efficacy and toxicities of preoperative neoadjuvant radiochemotherapy for locally advanced rectal adenocarcinoma.
Patients and Methods: Between April 2000 and March 2004, 81 patients (pts), 62 males and 19 females, mean age 64 (41–78) years, with locally advanced undisseminated rectal cancer (cT3–4, and/or N+, M0), were treated. All pts had histology of adenocarcinoma: 8 pts grade 1, 56 pts grade 2 and 17 grade 3. Radiochemotherapy consisted of external beam radiotherapy 45–50.4 Gy in 25–28 fractions, 1.8 Gy daily, with concomittant chemotherapy: 5-fluorouracil 200 mg/m^2/day in continuous infusion. Surgery was performed 5–6 weeks after the end of radiochemotherapy.
Results: The median of pre treatment CEA level was 3.84 (0.95–107.1) mg/l. The median of pre treatment hemoglobin level was 137 (63–196) g/l, leucocytes 7.6 (4.1–13.06) 109/l and thrombocytes 248 (99–455) 109/l. The median of nadir during radiochemotherapy was as follows: hemoglobin level 128 (93–152) g/l, leucocytes 4.7 (1.6–17.11) 109/l and thrombocytes 191 (38–281) 109/l. Grade 3 leucopenia occurred in 2 pts, grade 3 thrombocytopenia in 1 pt, diarrhea grade 3 in 4 pts. One pt didn't complete planned regimen of radiochemotherapy because of leucopenia. After neoadjuvant preoperative radiochemotherapy was achieved radical resection with microscopically negative margins (R0) in 72 (89%) pts [43 (54%) pts sphincter-preserving resection and 29 (35%) pts abdomino-perineal resection], resection with microscopic residual tumor (R1) in 2 pts and resection with macroscopic residual tumor (R2) in 7 (9%) pts. Pathologic TNM stage after neodjuvant radiochemotherapy was as follows: 7 (9%) pathologic complete response, 20 (24%) pts stage I, 36 (45%) pts stage II, 12 (15%) pts stage III and 6 (7%) pts stage IV. Downstaging after neoadjuvant radiochemotherapy was achieved in 42 (52%) pts. At the date of evaluation (April 30th, 2005) 58 pts were alive. One-year survival was 96.3% (95% CI: 92.1%-100%). Two-years survival was 81.8% (95% CI: 72.6%-90.8%). Three-years survival was 63.5% (95% CI: 50.2%-76.9%). Twenty-two pts (27%) have recurrence: 11 (13.5%) local recurrence and 11 (13.5%) distant metastases (7 pts liver metastases, 3 pts pulmonary metastases and 1 pt brain metastases).
Conclusions: This study demonstrates the efficacy and toxicities of preoperative neoadjuvant radiochemotherapy for locally advanced rectal adenocarcinoma.

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5-fluorouracil and l-leucovorin by night infusion chronotherapy and pelvic radiotherapy combined with regional hyperthermia in patient with advanced or recurrent rectal carcinoma

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Background: To investigate an effect of 5-fluorouracil and l-leucovorin by night infusion chronotherapy and pelvic radiotherapy combined with regional hyperthermia in patient with advanced or recurrent rectal carcinoma in a preoperative setting.
Material and Methods: Between January 2003 and March 2005, 33 patients including 4 locally recurrent cases were entered onto this study. The patients were staged as follows according to the UICC classification: 4 in T2, 26 in T3 and 3 in T4. The external irradiation was delivered with a three-field technique with daily 2 Gy per fraction at a total dose of 40 Gy (initial 11 cases) to 50 Gy (later 22 cases) to the tumor site and surrounding lymph nodes. Two cycles of chemotherapy were given on weeks 2 and 4, with 5-day night infusion (12 hr) of 5-fluorouracil (5-FU)