with clinicopathologic features and prognosis was studied in 126 curatively (R0) resected gastric carcinomas.

Methods: DNA was extracted from 126 formalin-fixed, paraffin-embedded gastric carcinomas and corresponding normal mucosa. Each case were studied with a panel of at least 5 to 10 microsatellites containing mononucleotide and dinucleotide repeats. A tumor was considered as positive when at least one locus showed a different mobility band.

Results: MI could be detected in 44.4% (n = 56) of all tumors. 12.8% (n = 16) of the tumors showed MI in two and more loci. 32 (57.1%) of the 56 MI positive carcinomas belonged to the intestinal type, 21 (37.5%) to the diffuse type and 3 (5.4%) to the mixed type according to the Lauren classification. No significant difference could be demonstrated concerning the mean survival time of MI negative carcinomas (2.92 years) and MI positive carcinomas (2 35 years). MI was not correlated with age, depth of invasion or differentiation. However 5 of 6 (83%) cases demonstrating widespread MI (≥4 loci with MI) were free of lymph node metastasis. In comparison only 36 of 70 (51.4%) MI negative tumors were nodal negative.

Conclusions: MI is not infrequent in gastric cancer but no significant association could be demonstrated between MI and prognosis.

1242 ORAL

Expression of the β4 integrin subunit is closely related to hematogenous metastasis in gastric cancer

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Purpose: Alterations in cell attachment to the extracellular matrix are postulated to play an important role in the process of invasion and metastasis. Laminin distribution patterns have already been shown to influence the mode of spread of gastric CA. Very little is known about the influence of laminin receptors like the α6β4 integrin on the pattern of metastasis of gastric CA.

Methods: We evaluated immunohistochemically the expression of α6β4 in specimens from 48 patients with advanced gastric CA. The relationship between the expression of α6β4 and the clinico-pathological features of the tumors was statistically analyzed.

Results: In 10/48 (21%) tumors, the expression of the β4 subunit was found to be as strong as in the normal mucosa. This was seen predominantly in gland-forming CA ($p < 0.05$), showing a marked expression of laminin ($p < 0.005$) and a low rate of tumor cell dissociation ($p = 0.06$). After a mean follow-up of 19 months, 10 patients had developed hematogenous metastases. 6/10 (60%) presented a strong expression of β4, whereas only 4/38 (11%) patients without hematogenous metastasis showed this expression pattern ($p > 0.01$).

Conclusion: Our findings indicate, that the β4 integrin subunit may play an important role in the process of hematogenous metastasis in gastric CA.

1243 ORAL

Serum tumor markers in gastrointestinal cancer patients: A prospective longitudinal study

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Purpose: The present study was designed to evaluate in a prospective trial, the ability of a combination of CA 72-4, CEA and CA 19-9 tumor markers to improve the clinical diagnosis of recurrent gastrointestinal (GI) cancer.

Methods: 300 GI cancer patients were enrolled. Patients with colorectal cancer, stages A, B C and D (with surgically resectable metastasis), and with gastric cancer, stages I, II, III and IV (only T4N2M0) entered the study. Patients were followed for at least 4 years after surgery or until diagnosis of recurrent disease. Serum samples were obtained before surgery and at every time point scheduled for the clinical follow-up. CA 72-4 and CA 19-9 RIA kits were kindly supplied by Centocor, Malvern, PA. Serum CEA levels were measured using the CEA RIA kit (Abbott).

Results: To determine whether the combined measurement of these tumor markers may be considered an indication to perform imaging diagnostic procedures, all patients whose serum levels of at least one of the three tumor markers became positive or increased more than 50% (over the mean of at least 3 previous determinations), were suspected as having recurrent disease, and therefore, were subjected to detailed imaging procedures. Among the 300 patients, 82 had recurrent disease. In more than 80% of the cases, the serum levels of at least one marker significantly rose, allowing either a confirmation or a prediction of the diagnosis of recurrent disease. No false positive cases were observed.

Conclusion: In all the cases, the serum marker performance matched the diagnostic imaging procedures, suggesting their possible use as a pilot tool to guide imaging diagnostic procedures during the post-surgical follow-up.

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1244 ORAL

Randomised clinical study (phase III) FE vs. FEP in advanced gastric cancer

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Purpose of the study was to determine activity of high doses of 5-fluorouracile and epirubicin (FE) vs. the same combination + cisplatin (FEP) in advanced gastric cancer.

Methods: In prospective phase III clinical study 110 pts. with advanced gastric cancer were included. Out of 110 pts. 100 (69 male, 31 female) were evaluable. The treatment involved in FE arm 1000 mg/m2 in 6 hour-infusion of 5-fluorouracile on days 1, 2, 3, 4, 5 and 120 mg/m2 of epirubicin i.v. on day 1; in FEP arm the same combination of cytostatics + cisplatin 30 mg/m2 on days 2.4 was administered. The cycles were repeated after 4 weeks.

Results: In FE arm 51 patients were evaluable with 1 complete and 14 partial remissions (31.4%), and in FEP arm out of 49 evaluable patients 2 complete and 17 partial remissions (40.8%) were observed.

Median survival in FE group was 6.7 mos, and in FEP group 8.9 mos. The survival difference is statistically significant ($p = 0.1959$). Febrile neutropenia (grade IV) was observed in 3 patients in arm FE and in 5 patients in arm FEP. The treatment related death was not registered.

Conclusion: The addition of cisplatin to high doses of 5-fluorouracile and epirubicin resulted in statistically significant better response to therapy.

1245 ORAL

Taxotere-cisplatin (TC) in advanced gastric carcinoma (AGC): A promising drug combination

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Despite chemotherapy (chemo), the outcome of patients (pts) with AGC remains dismal. Taxotere (TAX) was shown to induce alone an interesting response rate of 24% in AGC. We conducted a phase HI trial investigating its activity in combination with cisplatin.

Pts with AGC not pretreated palliatively by chemo, with measurable disease, PS ≤ 1, normal blood count, and normal hepatic and renal functions received up to 8 cycles of TC (TAX 85 mg/m^2 d1, Cisplatin 75 mg/m^2 d1) q3w. TAX escalation to 100 mg/m^2 in 5 pts was too toxic and discontinued.

Among 41 pts already accrued, 37 pts (mean age 55 y, mean weight 62 Kg, M:F 31:6) are evaluable for toxicity (tox) and 31 for response. We observed 2 CR and 16 PR (RR = 58%, 95%CI: 39–75%). 3 fatalities occurred: 2 pulmonary embolisms and 1 suicide. Grade ≥3 tox were neutropenia 72%, thrombocytopenia 8%, alopecia 30%, fatigue 8% mucositis 5%, neurologic 3% and nausea/vomiting 3%. 4 of 153 cycles were complicated by non-fatal febrile neutropenia, 2 of them with TAX 100 mg/m^2. Other tox were grade 1–2 neurotoxicity 40% and fluid retention 30%, 4 grade 1 renal tox and 2 grade 1 hypersensitivity reactions.

We conclude that TC, as used, is well tolerated with significant efficacy in AGC. The planned accrual of 43 pts is about to be reached and mature results should be available for the conference.

1246 POSTER

Prognostic factors in non-curative gastric cancer

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Objective: To identify the importance of the extent site and distribution of residual intra-abdominal disease in patients having non-curative resection for gastric cancer and so assess the indications for extended resection.

Method: 230 patients who were explored with curative intent but in whom the resection was palliative because of residual microscopic (R1) or residual macroscopic (R2) disease were identified from a prospective data

base of 1595 gastric cancer admissions from 1985–1995. Relevant factors were analyzed by the Kaplan-Meier method and Log-rank test. Significant factors ($p < 0.05$) were subjected to Cox's multivariate analysis. Survival in a separate group of 288 patients explored but not resected served as a bench mark for comparison.

Results: The median age was 64 years and the male:female ratio 2.3:1. There were 145 R2 resections and 85 R1 for a median follow up time of 7 months (range 0–88) and overall median survival of 9 months. Median survival was 11 months for R1 and 8 months for R2 ($p = 0.009$) and 5.7 months for the 288 unresected patients. Median survival was 6 months for those with residual disease in visceral sites *vs* 11 months for non-visceral sites ($p < 0.001$). Multivariate analysis identified only R1 *vs* R2 resection and visceral *vs* non-visceral residual disease as being significant.

Conclusion: Palliative, R1 or R2, operations are of minimal, if any, value and in such the indication for operation should be confined to the relief of symptoms alone. Only patients with limited peritoneal or nodal metastasis showed some small survival advantage from non-curative gastrectomy over no operation at all.

1247 POSTER

Gastric cancer: The value of limited lymph node dissection for early stage gastric cancer

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Purpose: In Japan, standerd lymph node dissection has been D2. However we have performed, limited lymph node dissection for especially early stage of gastric cancer. Limited lymph node dissection is D1 with #7, 8 a lymph node dissection and/or #9, 10, 11 lymph node sampling. The purpose of this study was to evaluate limited lymph node dissection in 130 gastric cancer in our institution.

Results: The age ranged 41 to 84 with an average of 63. Eighty three were male and 47 were female. Surgical procedure; 83 distal gastrectomy, 31 total gastrectomy and 12 inoperable. Lymph node dissection; D1:10, D1+α:79, D2:26. The frequency of positive lymph node metastasis and positive lymphatic permeation based on the depth of invasion were summarized as follows.

Depth of invasion	m	sm	pm	ss	se	si
total No.	39	27	14	11	28	7
positive LN. meta	0	2	5	6	20	5
lymphatic permeation	0	11	8	10	23	6

Conclusion: Lymphatic permeation was positive in almost half of sm cases, however, lymph node metastasis was rarely positive, therefore, D1 or D1+α could be a standard procedure for early stage gastric cancer.

1248 POSTER

p53 Status as potential predictor for response to chemotherapy in locally advanced gastric cancer

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Purpose: Inactivation of p53 has been reported to be associated with resistance to chemotherapy. The significance of p53 status on clinical outcome of chemotherapy was assessed in locally advanced gastric carcinoma (LAGC).

Methods: 25 chemotherapy-naive patients with LAGC received a weekly administration of CDDP 30 mg/m^2; epi-doxorubicin 35 mg/m^2; 5 fluorouracil 500 mg/m^2; 6S-leucovorin 250 mg/m^2 and glutathione 1,500 mg/m^2. After 8 chemotherapeutic administrations, patients were assessed for response. Biopsy specimens of primary tumors were analyzed for p53 status using monoclonal antibody Bp53-12.

Results: Characteristics of patients were: median age, 65 years (range 44–70); 16 males and 9 females; PS (ECOG) 0, 10; 1, 13; 2, 2; histology, 11 differentiated, 14 undifferentiated; site, cardias 7; body 8; antrum 10. Response rate (assessed with CT scan and endoscopy) among patients with not overexpressing p53 was significantly higher than that with overexpressing p53 (85.7% vs 14.3%, $p = 0.007$). Multivariate analysis showed an independent predictor for response for not overexpressing p53.

Conclusions: p53 status analysed before chemotherapy seems to be associated with response to treatment in LAGC. This may provide a useful guide to deciding upon neoadjuvant chemotherapy in patients with LAGC.

1249 POSTER

Can surgery be replaced by radio-chemotherapy in the treatment of esophageal cancer?

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Purpose: Surgery claims to be the only radical treatment method for resectable cancer of the esophagus. Non-surgical treatment results in unresectable situations doubt the position of the surgeons.

Methods: Our protocol consists of external radiotherapy to the esopahgus (single dose 2 Gy, total dose 56–60 Gy) and chemotherapy (5-FU 1000 mg/m2/d, cisplatin 25 mg/m2/d) during week 1 and 5. The percutanous radiation follow 2 HDR-brachytherapy applications, 5 Gy each/0.75 cm distance from the applicator surface.

Between Jan 91–June 96 30 pat. have been treated, median age 59 y (41–76). 25 pat received the whole treatment course; 5 pat. did not receive brachytherapy because of acute oesophagitis (2) or refusal of esophagoscopy (3). Median tumor length was 7 cm (3–12), 26/30 pat. corresponded to tumor class cT3 or cT4.

Results: 24/30 pat had endoscopically complete response. 4 pat. developed a local recurrence after 5, 6, 12 and 20 months. In 9/30 pat. we observed hematogenic metastases. Median survival was 21 months, 1-and 2-year survival rates were 74% (48%–88%) and 48% (22%–69%).

Conclusion: This non-surgical treatment is not only a substitute method for treatment of esopahgeal cancer but it can be a true alternative with similar results concerning loco- regional tumor control.

1250 POSTER

Pylorus preserving partial duodenopancreatectomy for ductal pancreatic carcinoma

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In a study compiling the data in a prospective manner, the validity of the pylorus preserving duodenopancreatectomy (PPPD) in comparison to the partial duodenopancreatectomy (PD) in patients suffering from ductal pancreatic carcinoma were assessed concerning postoperative morbidity, mortality and overall prognosis of the disease. From May 1990 to April 1995 130 patients entered the study. 61 underwent PD, 69 patients had a PPPD. The patients were regularly followed-up every 6 month and the median follow-up period for all patients was 36 months. The PPPD in patients with ductal pancreatic head carcinoma without infiltration of the duodenum is the technically simpler and faster operation method with significantly less blood loss. Moreover, PPPD did not lead to increased postoperative complications. The median survival rate of patients in the PD group was 10.8 months, in the PPPD groups 21 months. This significant difference derives from the fact that the tumor stages were unevenly distributed. Regarding the most common stage (stage III according to UICC) the median survival times were almost identical (in the PD group: 10.1 months, in the PPPD group 11.2 months). Therefore, the PPPD operation seems to be a sufficient radical procedure which does not worsen the prognosis of the disease.

1251 POSTER

Feasibility and phase II study of combined modality treatment with accelerated radiotherapy and chemotherapy in patients with locally advanced inoperable carcinoma of the pancreas

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Purpose: This study was developed to evaluate a palliative therapy for prolonging survival and stabilizing quality of life because of the unfavourable prognosis of advanced, inoperable adenocarcinoma of the pancreas.

Methods: From 8/90 to 12/96 90 Patients (33 female/57 male) with locally advanced, inoperable and histologically proven adenocarcinoma of the pancreas were included. The mean age was 61.8 years.