

of post operative concomitant chemoradiation in 55 pts with stage II,III or IV, M0 gastric cancer. Surgical treatment was performed according to standard procedures for radical resection of cancer of the stomach. Radiotherapy delivered by high energy photons (18-25 MV) a total dose of 45 Gy (5 x 1.80 Gy) to the planned volume. Chemotherapy associated 5FU 750 mg/m<sup>2</sup>/d in continuous infusion on days 1-4 and CDDP 80 mg/m<sup>2</sup> on day 1. Four cycles of chemotherapy were planned d1 and d28 and the two first were concomitant with the radiotherapy.

**Results:** There were 38 males and 17 females. The median age was 57.5(27-73). 84% of the patients (pts) were WHO 0 or 1. 17/55 pts had a tumor of the cardia. The surgical procedure was a total gastrectomy in 33 pts (60%), a 4/5 gastrectomy in 13 pts (23.5%) and an upper esogastric resection in 9 pts. A R2 lymphadenectomy was performed in 24 pts and a R1 in 31 pts. 46 pts (83.5%) had a pathologic complete resection and 9 pts showed positive margins. 91% of the pts were classified pN1,2 or 3 and 71% pT3. Toxicity: grade 3 and 4 gastro intestinal toxicity occurred in 52% of the pts mainly nausea, vomiting, diarrhea, esophagitis and gastritis. Grade 3 and 4 hematologic toxicity was observed in 34.5% of the pts. A weight loss > 10% was noted in 40%. 67% of the patients received the 4 cycles of chemotherapy and 90% the planned dose of radiation. The radiotherapy was interrupted for less than a week in 20/55 pts. There was no toxic death.

**Conclusions:** Adjuvant concomitant chemo-radiotherapy in resected gastric carcinoma is feasible with a manageable digestive and hematologic toxicity. This approach deserves further evaluation.

## 2063 Outcome after Combined Modality Treatment for Primary Adenocarcinoma of the Anal Canal: A Rare Cancer Network Multicenter Study

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**Purpose:** Primary adenocarcinoma of the anus is a rare tumor. Actual standard treatment consists of a primary abdominoperineal resection (APR). The aim of this Rare Cancer Network (RCN) study was to evaluate the outcome after several treatment combinations.

**Patients and Methods:** Data from 77 adult patients treated between 1977 and 1999, were collected in a retrospective multi-center study of the RCN. Median age was 74 y (47-93); sex ratio (F/M) is 1.3 (43/34). Distribution according to TNM classification (UICC87) was: 13 T1 (17%), 31 T2 (40%), 22 T3 (29%), 11 T4 (14%) and 58 N0 (75%), 5 N1 (7%), 8 N2 (10%) 6 N3 (8%). Two patients had metastases at the time of diagnosis. Median tumor volume was 4.8 cc (0.25-96). Tumor extension was 1/4 of the anal canal circumference in 25 cases (32%), 1/2 in 27 (35%) and >= to 3/4 in 8 (10%). Histologic grade distribution was: 30 grade I (39%), 24 grade II (31%) and 11 grade III (14%). Sphincter function prior to treatment was normal in 25 (33%), slightly impaired in 15 (20%), moderately impaired in 8 (10%) and severely impaired in 10 (13%) patients. Patients were divided into 3 treatment groups: APR alone (group 1, n=6), Surgery/radiotherapy (group 2, n=43) and combined chemotherapy + radiotherapy (group 3, n=28). With the exception of age (p=0.011), patients were well distributed within the 3 groups in terms of gender (p=0.65), tumor volume (p= 0.41), circumferential extension (p=0.29), T-stage (p=0.61), N-stage (p=0.81), histologic grade (p=0.094). There was no significant difference in radiotherapy parameters between group 2 and 3.

**Results:** Among the 77 patients 67 (87%) were evaluated for toxicity. Cutaneous toxicity was grade 1 in 44 patients (65%) and grade 2 or 3 in 2 patients (3%). Cutaneous toxicity grade > 1 was significantly higher in group 2 than group 3 (p=0.01). Digestive toxicity was grade 1 in 26 patients (39%). No differences were noted between the RT groups (p=0.23). After treatment 48/77 (62%) had a complete response.

After a median follow-up of 33 months (mean: 48; range: 2-236), 23 patients (30%) had a local relapse and 7 patients (9%) developed metastases.

Local relapse rate at 5 years was 20%, 35%, 40% respectively in group 1, 2, and 3 (p=0.80). At 5 years metastases occurred in 33%, 27% and 31% in group 1, 2, and 3 (p=0.98), respectively.

The 3, 5, and 10-y overall survival were 41%, 21%, 21% in group 1, 47%, 26%, 20% in group 2, and 71%, 57%, 45% in group 3 (group 1 vs. 2 vs. 3, p=0.074; group 2 vs. 3, p=0.015). The 3, 5, and 10-y disease free survival were 34%, 26%, 19% in group 2 vs. 57%, 52%, 37% in group 3 (p=0.028).

**Conclusion:** Primary adenocarcinoma of the anal canal is a very rare cancer that requires a rigorous treatment. In the present study improved survival rates were suggested after combined treatment modality with chemotherapy and radiotherapy. APR may be reserved for salvage treatment of persistent or recurrent disease.

## 2064 Dose Response Relationship in Local Radiotherapy for Hepatocellular Carcinoma

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**Purpose:** Interest has recently focused on the use of 3-dimensional conformal radiation therapy (3D-CRT) for the treatment of primary hepatocellular carcinoma (HCC). Dose-escalation using 3D-CRT is based on the hypothesis that escalating the dose can increase tumor control. In this study, we investigated whether dose response relationship existed or not in local radiotherapy for primary HCC.

**Materials and Methods:** From January 1992 to March 2000, 158 patients were included in present study. Exclusion criteria