

(15.3%). All patients where chemotherapy treated plus surgery, except for 38 patients (9.4%) who received best supportive care because of poor performance status (6 patients were  $\leq 40$  years).

**Conclusion:** More than fifty percent of patients were diagnosed to have distal cancers. We found a large proportion (67%) of patients presented in advanced stages (III/IV), even in young people ( $\leq 40$  years). We show evidence about that increasing prevalence of CRC in young patients (22.8%). About colonic tumour location was interesting that 21.8% of cases were PC. These findings have important implications for CRC screening strategies, preventive and early detection programs in Mexico.

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POSTER

#### Ultra Low Anterior Resection for Distal Rectal Cancer – the End of the 1CM Rule?

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**Introduction:** Controversy persists concerning the oncological safety of very close distal margins in patients with low ( $\leq 5$  cm) rectal cancer treated with neoadjuvant chemoradiation (nCRT).

**Methods:** All patients with low rectal cancer treated with nCRT (45 Gy) followed by sphincter saving surgery were identified from a prospective database. We analysed pathological and surgical outcome including local recurrence rate. Also, we studied the influence of distal margin ( $>1$  cm versus  $\leq 1$  cm) on overall survival using log rank analysis. Data are expressed as mean  $\pm$  SD or median (range).

**Results:** From 1998 until 2010, 109 patients (73% male) were identified. Clinically, 59% were staged as node positive. The pre-CRT distance from the anal verge was 3 cm (0.3–6). All patients underwent ultra low anterior resection; 35% underwent intersphincteric resection and colo-anal anastomosis. A protective ileostomy was constructed in 90% of patients. Stage distribution was as follows: stage 0 (ypCR): 16%, stage I, 30%, stage II, 21% and stage III, 19%. The median distal margin was 10 mm (0.1–40 mm). After a median follow up of 33 months, isolated local recurrence developed in 2 patients (1.8%) one of whom underwent successful surgical salvage. Two patients (1.8%) developed local and distant recurrence, while metastatic disease only developed in 25 patients (23%). Overall 5 year survival was 70%, and did not differ between a distal margin  $>1$  cm versus  $\leq 1$  cm ( $P=0.18$ , log rank).

**Conclusions:** In patients with low rectal cancer undergoing nCRT, a distal margin  $<1$  cm does not compromise local control or survival.

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POSTER

#### Hypoxic Antiblastic Stop-flow Pelvic Perfusion – a Step in the Therapeutic Flow-chart of Recurrent Colorectal Cancer

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**Background:** Hypoxic antiblastic stop-flow perfusion (SFP) is a palliative locoregional treatment for patients with locally advanced inoperable tumours, based on the perfusion of the tumour's anatomic district after blood supply blockage achieved by means of intravascular inflatable balloon catheters.

**Material and Methods:** 26 patients affected by locally recurrent unresectable colorectal cancer were treated with a total of 43 pelvic SFP. All patients had received other previous treatments: surgery (26), systemic CT (23), RT (24), a previous pelvic SFP (11), two previous pelvic SFP (5) and previous three (1). Drugs delivered were a combination of Oxaliplatin and Mitomycin-C. Systemic and locoregional toxicity, tumour response, local progression-free survival and pain control rates were recorded. In cases of partial response or stable disease following the first SFP, a second or further procedures were taken into consideration if no distant metastases were found.

**Results:** A single SFP was performed in 32 patients; 6, 4 and 1 patient underwent respectively 2, 3 and 4 cycles of SFPs. The mean interval between repeated SFPs was 8 weeks (range 6–10 weeks). The mean hospital stay was 5 days (range 3–23 days).

No postoperative deaths occurred. Four methodical complications were recorded: 2 bleedings from the puncture site, 1 haematoma, 1 deep venous thrombosis and 1 artero-venous fistula. Mild locoregional and systemic toxicity were observed after 5 (12%) and 6 (14%) treatments. The mean drug leakage rate was 54%. Complete and partial response was observed in 2 (8%) and 8 (31%) patients, respectively (overall response rate = 39%). In these patients surgery was reconsidered. In 9 patients (35%) stabilization of disease was observed after one treatment. Median local progression free survival was 7 months (range 2–23 months). Median overall survival was 15 months: the higher the number of SFPs pursued per patient, the

higher the overall survival. A high rate of pain control was achieved: 60% of patients decreased the dosages of pain-relievers, 40% didn't use drugs anymore.

**Conclusions:** SFP is a semi-invasive procedure that shows encouraging results not only in terms of cancer related symptoms palliation, but surprisingly in terms of tumour response rates. Therefore indications to SFP should be extended as an alternative to the failure of traditional approaches and as a neo-adjuvant treatment to make surgical resection feasible.

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POSTER

#### Characteristics of Individuals With High Scores in the Model PREMM<sub>1,2</sub> Risk Assessment of Germline Mutations in MLH1 and MSH2

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**Introduction:** Lynch syndrome is the most common inherited cause of colorectal cancer and is due to germline mutations in mismatch repair of errors of DNA base pairing (MMR genes). Most mutations occur in genes MLH1 and MSH2. The PREMM<sub>1,2</sub> model predicts the likelihood of being a carrier of a mutation in the genes MLH1 and MSH2 based on personal and family history of colorectal cancer and adenomas.

**Material and Methods:** From 2005–2008 124 genetic studies were carried out on patients with suspected Lynch syndrome; in 87 cases MLH1 and MSH2 were analyzed. Of these patients 20 were carriers of a MLH1 mutation (6) or MSH2 (14). Retrospectively, the PREMM<sub>1,2</sub> predictive model was applied to all individuals. We analyzed the sensitivity and specificity for different cutoff points. In individuals with higher PREMM<sub>1,2</sub> scores ( $\geq 20\%$ ) personal clinical characteristics (sex, age at cancer diagnosis, tumour type, location, multiple tumours, presence of adenomas) and family (age of first cancer in the family, presence or absence of first-and second-degree relative with colorectal cancer and endometrial cancer) and diagnostic criteria (Amsterdam or Bethesda modified) were evaluated. Individuals with PREMM<sub>1,2</sub>  $\geq 20\%$  were stratified according to whether or not they had MMR deficiency (microsatellite instability [MSI] or loss of expression by immunohistochemistry [IHC] of MMR proteins).

**Results:** 20 pathogenic mutations (22.98%) were detected: 6 of gene MLH1 and 14 MSH2. The cutoff of PREMM<sub>1,2</sub> influenced the ability to discriminate between carriers and non-carriers of mutation: for a cutoff of  $\geq 5\%$  the sensitivity was 100% and specificity of 14.9% and mean positive predictive (PPV) of 25.9%; for a cutoff of  $\geq 20\%$  the sensitivity fell to 71.64% while the specificity increased to 45%, and PPV was 32.14%. There were 28 individuals who scored  $\geq 20\%$ . In 27 of these the MMR status was known. There were no differences in any personal or familial clinical features among the 16 patients with MMR deficiency and 11 without MMR deficiency, except in the type of cancer: all individuals who scored  $\geq 20\%$  and did not have MMR deficit were suffering from colorectal cancer, whereas in the MMR-deficient group there were 6 individuals with extracolonic tumours (5 endometrial cancers and 1 stomach cancer) ( $p=0.046$ ).

**Conclusions:** The discriminative capacity of the PREMM<sub>1,2</sub> model varies according to different cutoff points. The PREMM<sub>1,2</sub> score in combination with MMR status identifies a subset of patients who differ in the type of tumour present. Colorectal cancer is the only type of tumour diagnosed in individuals with PREMM<sub>1,2</sub>  $\geq 20\%$  with tumours without MMR deficiency.

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POSTER

#### Non-specialist Decision Making in the Management of Metastatic Colorectal Cancer

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**Background:** Improved surgical techniques and chemotherapeutic regimens have meant that the definition of resectable metastatic liver disease is evolving. UK NICE guidance 176 implies that all patients with liver-only metastatic colorectal cancer should have their treatment managed by an MDT with access to specialist liver surgeons.

This study aimed to assess local colorectal MDT decision-making on resectability of liver-only metastatic colorectal cancer.

**Methods:** All patients treated with palliative chemotherapy between January and December 2009 at a regional oncology unit for metastatic colorectal cancer were identified using a prospectively maintained database. This was then cross-referenced with the regional hepatobiliary multidisciplinary database, to identify patients who had been discussed with a liver surgeon. Imaging for all patients who had not been reviewed by a liver surgeon was retrieved. Patients with disseminated malignancy were excluded, leaving a cohort of patients with liver only metastatic