to DFS. Among the 50 mRCRG1 tumor, DFS was significantly better in patient with ypT0 than in other ypT stages ($p$=0.003).
**Conclusion:** Presence of calcification in tumor bed is a new major histopronostic factor described for the first time in rectal cancer. Our results raised the question of whether ypT stage or histological tumor regression is more important in the prediction of patient prognosis.

Tuesday, 11 September 2012, 17.00–19.00, Club D
**OFP-04 Oral Free Paper Session Digestive Diseases Pathology II**

**OFP-04-001**
**Histological grading: A prognostic factor for stage I colorectal cancer?**
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**Objective:** The most widely used system for histological grading of colorectal cancer (CRC) is based on the degree of gland formation, despite significant interobserver variability and low prognostic value. Herein we analyzed the prognostic significance of a grading system based on the presence of poorly differentiated clusters in stage I CRC.
**Method:** Poorly differentiated cancer clusters were assessed by two independent pathologists in stage I CRC characterized or not by disease progression. Tumors with <5, 5 to 9, and >10 clusters were classified as G1, G2, and G3, respectively. The prognostic value on disease-free survival and the association with other clinicopathologic characteristics of the conventional and novel grading systems were analyzed.
**Results:** K statistics for inter-observer variability in the assessment of histological grade based on poorly differentiated custers was 0.728 (good). High histological grade assessed with the novel system, but not with the traditional one, represented a negative significant prognostic factor for disease-free survival and it was significantly associated with venous invasion, lymphatic invasion, budding, invasive growth and nodal micrometastases.
**Conclusion:** We suggest that a tumor grading system based on the number of poorly differentiated clusters has a stronger power to stratify stage I CRC patients by prognostic outcome than conventional grading.

**OFP-04-003**
**Cytokeratin 7: A marker for BRAF mutated colorectal carcinomas?**
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**Objective:** Cytokeratin20+/Cytokeratin7− (CK) is used as the characteristic immunophenotype of colorectal carcinomas (CRC). Some new studies suggested that aberrant pattern CK20/CK7 can be identified in colorectal cancer with microsatellite instability (MSI). Our aim was to establish which factors may determine changing in this immunophenotype.
**Method:** In 70 CRC, randomly selected, we performed immunohistochemical stains with CK20 and CK7 and analyzed the microsatellite status and BRAF mutations with real time PCR.
**Results:** From the 70 CRC, 15 were MSI and 55 MSS (microsatellite stable) cases. 90 % of MSS cases diffusely expressed CK20 without CK7 expression. From the 15 MSI cases, 6 presented BRAF mutations. In MSI cases with BRAF mutations, CK20 was focally expressed or negative and CK7 was diffusely expressed.
**Conclusion:** Cytokeratin7 positivity may be used to select BRAF mutated MSI colorectal carcinomas. Both CK7 and CK20 should be used for differential diagnosis of colorectal cancer.

**OFP-04-004**
**Intratumoral budding in preoperative biopsies predicts local and distant metastasis in colorectal cancer patients**
A. Lugli*, M. Hädrich, D. Inderbitzin, M. Borner, I. Zlobec
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**Objective:** In 2011, the term "intratumoral budding, ITB" was used to describe the presence of tumor buds within the main tumor body and was correlated to worse clinical outcome in colorectal cancer patients. Here, we further elucidate the potential clinical role of ITB in pre-operative biopsies using pan-cytokeratin stained tissues and a quantitative scoring system.
**Method:** 139 pre-operative biopsies from patients with colorectal cancer underwent immunohistochemistry for pan-cytokeratin (AE1/AE3). ITB were counted in the area of densest budding (40×) and classified as high-grade when >10 buds/HPF were observed based on receiver operating characteristic (ROC) curve analysis.
**Results:** High-grade ITB occurred in 26.6 % of cases and was associated with right-sided tumor location ($p$= 0.0356), more advanced pT ($p$=0.0198) and pN ($p$< 0.0001) classifications, distant metastasis ($p$=0.0164), higher tumor grade ($p$=0.0037) and lymphatic invasion ($p$=0.0445). The specificity and positive predictive value for lymph node metastasis was 86.7 % and 75.6 %, respectively. Disease-free survival was significantly worse in patients with high-grade ITB (5-year survival=25 %) in comparison to patients with low-grade ITB (5-year survival= 55 %) ($p$=0.0157).
**Conclusion:** The assessment of ITB in pre-operative biopsies is predictive of local and distant metastasis in corresponding resections and should be considered in daily management of colorectal cancer patients.

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