no staining =0, weak staining =1, moderate staining =2 and strong staining =3. Tissue involvement was scored as follows: 0%=0, <10% involved =1, 10%-50% involved =2, 51%-80% involved =3 and >80% involved =4. Final composite scores were then generated by multiplying the intensity score by the tissue involvement score. Tissues were considered positive for DCLK1 if the composite multiplied score was ≥3. Fisher's exact test (t-test) was used to determine statistical significance. **Results:** A total of 148 polyps (50 HP, 50 TA, 25 HGD, and 23 CRCs) were included in the study. The average composite DCLK1 expression score was significantly ($p<0.0001$) lower among HP when compared to TA, Conversely, epithelial and stromal DCLK1 expression was significantly higher ($p<0.0001$) among HGD and CRC when compared to TA. **Conclusion:** Significantly increased expression of DCLK1 was observed in the epithelial and stromal tissues of HGD and CRCs compared to TA and HP. This study demonstrates the ability to evaluate routine surgical tissues for DCLK1 expression, which may provide evidence of dysplastic changes and neoplastic progression. Thus, DCLK1 may represent a novel target for the development of new diagnostic biomarkers to aid in the differentiation of dysplastic and neoplastic colonic lesions from non-dysplastic colonic tissue.

Table 1. Composite scores of DCLK1 expression in HP, TA, HGD, and CRC.

		Epithelial		Stromal	
	N	Mean	SD	Mean	SD
HP	50	1	2.04	0.7	1.8
TA	50	3.6	3.8	4.5	4.2
HGD and CRC	48	6.5	3.9	9.3	3.2

Table 2. Comparison of DCLK1 expression composite scores among HP, TA, HGD and CRC.

	Epithelial	Stromal
	Adjusted p Value	Adjusted p Value
HP vs. TA	0.0003	0.0003
HP vs. HGD and CRC	0.0003	0.0003
TA vs. HGD and CRC	0.0009	0.0003

Tu1904

Interval Cancer After Patients Undergoing Immunochemical Fecal Occult Blood (FIT) or Guaiac Fecal Occult Test (gFOBt) in a Population Based Study: FIT Is Protective for up to 3 Years

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Background: In a large population based study, average-risk persons, aged 50-75 years, were offered FIT or GFOBT after randomization according to the socioeconomic status of their clinics. Participants with positive tests underwent colonoscopy. Hemoccult SENSA™ and OC-MICRO™ (three samples, 70 ng/ml threshold) were used. In the current study we aimed to describe the follow up of all participants 5 years after FOBT was performed. Methods: Interval cancer of participants with negative FOBT was identified through the Israeli National Cancer Registry. Results: A total of 1224 patients with negative FIT and 2320 patients with negative G-FOBT were followed 5 years after the test was performed. At two years of follow up there were 0/1224 cancers in the FIT arm and 5/2320 cancers in the GFOBT arm (p=0.12). At three years of follow up there were 0/1224 in the FIT arm and 10/2320 in the GFOBT arm (p=0.014). At four years: 3/1224 cancers in the FIT arm and 11/2320 cancers in the GFOBT arm (p=0.23) and at five years 4/1224 cancers in the FIT arm and 12/2320 cancers in the GFOBT arm (p=0.3). Conclusions: Evidence is accumulating about the protective effect of FIT (low threshold, 3 tubes) up to 3 years.
Interval Cancer After a Negative FOBT

	FIT	GFOBT	P
	N=1224	N=2320	
Years after a negative test			
2	0	5	0.12
3	0	10	0.014
4	3	11	0.23
5	4	12	0.30

Tu1905

Distinct Adherent Bacterial Communities in Colon Cancer Tumors and Their Matched Normal

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Background: We previously reported that stool samples' flora from patients with pre-neoplastic lesions in the colon differ from those from healthy individuals. However, bacteria in stool samples are not representative of the colon adherent bacteria that are more prone to affect colon mucosa homeostasis. Here we sought to analyze the microbiota composition in tumors and their matched normal tissue from African American colorectal cancer patients. Materials & Methods: DNA extracts from 10 pairs of colon tumors and matched normal tissue, was used to amplify the V1-V3 regions of the 16S rRNA gene. The PCR primers included the A and B adaptor sequences for 454 pyrosequencing as well as a unique 12 bp barcode incorporated onto the reverse primer such that each sample receives its own unique barcode. The amplicons were purified, quantified, normalized, and then pooled in preparation for emulsion PCR followed by 454 sequencing using Titanium chemistry. After deconvolution and trimming, the sequences were put through chimera checking (using chimera slayer). Those sequences of length >=100 bp that were not labeled as chimeras were then processed using RDP's classifier. Results: Overall, each tumor sample microbiota was the closest to its matched normal based on the general bacterial profile. Bacteroidetes and Firmicutes were the dominant bacterial groups in all analyzed samples. Using a Principal Component Analysis at the genus level with bacterial genera that are represented at least 5% in one sample revealed two distinctly separated healthy tissue groups, one defined primarily by Bacteroides and the second defined by Prevotella bacteria. No tumor sample was within these two groups. It is noteworthy that Fusobacteria, that was shown by other similar studies as primarily abundant in tumors, was not defining any tumor group in our study. Conclusion: Our study reveals the presence of significant microbiota changes between tumor samples and matched normal tissue even though our analysis were done only at the genus level. Further analysis at the Operational Taxonomic Units (sub-genus level) for each pair of samples are underway and will further dissect the observed differences.

Tu1906

The Prognostic Value of Micrometastases and Isolated Tumour Cells in Histologically Negative Lymph Nodes of Patients With Colorectal Cancer: A Systematic Review and Meta-Analysis

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Background: Detection of occult tumor cells (OTCs) in lymph nodes of stage I and II colorectal cancer patients is associated with decreased survival. However, according to recent guidelines OTCs should be categorized in micrometastases and isolated tumor cells. Current meta-analysis evaluates the prognostic value of immunohistochemically detected OTCs in lymph nodes of patients with stage I and II colorectal cancer, after categorizing these cells as micrometastases or isolated tumor cells. Method: We systematically searched PubMed, Embase, Biosis and the World Health Organization International Trials Registry Platform for papers published until April 2012. Studies on the prognostic value of OTCs in lymph nodes of stage I and II colorectal cancer patients were included if they reported detection with immunohistochemistry. Hazard ratios (HR) for the predictive value of OTCs were extracted or calculated, and odds ratios (OR) for the development of disease recurrence or death in patients with micrometastases and isolated tumor cells (pN0itc) were calculated. A random-effects model was performed to pool disease free survival and overall survival. Results: Twenty-seven studies with a cumulative sample size of 3073 patients with stage I and II colorectal cancer were included. The median duration of follow up across all studies was 67 months. The median follow up within the studies ranged from 28 to 128 months. Detection of OTCs in regional lymph nodes was associated with reduced disease free survival (HR 2.41; 95%CI 1.67-3.48) but no significant association could be demonstrated for overall survival (HR 2.60; 95%CI 0.81-8.37). Eight studies discriminated micrometastases from isolated tumor cells based on AJCC criteria, and ORs for disease recurrence and death could be extracted from five studies with a total of 841 patients. The OR for disease recurrence and death was significantly higher in the presence of micrometastases compared to isolated tumor cells (OR 1.88; 95%CI 1.29-2.74), but there was no significant difference in disease recurrence and death between pN0itc patients and patients without OTCs (OR 1.22; 95%CI 0.77-1.92). Conclusion: Stage I and II colorectal cancer patients with micrometastases have a worse prognosis than pN0itc patients. In contrast, the risk of disease recurrence and death was comparable between pN0itc patients and patients without OTCs The distinction between isolated tumor cells and micrometastases must be made if the detection of OTCs is incorporated in the clinical decision for adjuvant treatment. .

Tu1907

Impact of Using a Revealing Solution of Lymph Nodes in Surgical Specimens on the Pathological Staging of Gastric Carcinoma

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Gastric cancer (GC) is the second most frequent tumor in the world and it is also the second main cause of cancer-related mortality. Surgery is still the only GC curative treatment. The TNM staging system for GC is widely used and provides important prognostic information, especially with regards to the lymph node (LN) status. LN involvement is one of the most important criteria for staging GC. There is a link between GC prognosis and the number of metastatic LN. Special procedures have been recommended in order to improve LN analysis and metastasis detection. The aim of this study was to evaluate the impact of using a fat clearing solution in lymph nodes dissection in a series of GC surgical specimens. METHODS: A prospective study was performed in a consecutive series of 30 GC surgical specimens analyzed for pathological TNM staging. At first, LN dissection from the fat tissue was done according to the routine procedures (conventional method). In order to improve LN detection, this tissue was emerged in a fat clearing solution: A mixture containing 65% alcohol, 20% ether, 5% acetic acid and 10% formalin (at 10%) for 36 hours with 3 changes. After this procedure, a new LN dissection was performed. The number of LN obtained by both methods were compared and analyzed. The number of LN positive and negative for metastasis was determined. RESULTS: From the 30 surgical specimens of GC analyzed, 1,005 LN have been dissected: 657 (21.9/specimen) by the conventional method and 348 (11.6/specimen) after using LN revealing solution. Metastasis was detected in 272 lymph nodes: 211 (77.6%) by the conventional method and 61 (22.4%) after using LN revealing solution. The use of a fat clearing solution in lymph nodes dissection increases the number of lymph nodes in 53% of the specimens, and of metastasis in 28.90% of the specimens. The pN changed in 6 of the 30 cases analyzed. CONCLUSION: The use of a fat clearing solution in LN detection is a special but simple procedure to apply in GC surgical specimens in order to increase the LN dissection. It must be recommended because it is useful to increase LN analysis and metastasis detection providing one of the most important prognostic factors for GC TNM staging.