

underwent FIT following two previous negative tests. The proportion of SD lesions located in the proximal colon was 71.3% for CRC and 56.1% for advanced adenomas. CONCLUSION: One FIT could detect some proximal lesions among people with negative FS. The optimal interval between FS and FIT and the cost effectiveness ratio of this strategy need to be assessed.

S1132

Colorectal Cancer Diagnosis Without Colonoscopy: Frequency and Predictive Factors

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Background: Colonoscopy is considered to be the standard of care for the diagnosis of colorectal cancer. However, population-based studies have reported a subset of patients with cancer who do not undergo colonoscopy. The purpose of this study was to estimate the prevalence and identify the predictors of not having a colonoscopy in the period preceding colorectal cancer diagnosis. Methods: Using the population-based SEER registries, we identified patients aged ≥ 69 with colorectal cancer diagnosed from 1994-2005. Linked inpatient and outpatient Medicare claims were used to identify receipt of colonoscopy prior to diagnosis. We divided this group into patients who had did not have colonoscopy within 3 years of diagnosis (Group I) and those who had 1 or more colonoscopies from 6 months prior to 30 days after diagnosis (Group II). Patient, sociodemographic and tumor factors were used to identify predictors of not having colonoscopy in univariate and multivariable logistic regression analysis. Results: We identified 79,032 patients, including 19.6% in Group I and 80.4% in Group II. Among patients in Group I, 31.6% had barium enema, 21.4% had flexible sigmoidoscopy and 57.3% underwent CT scan within 6 months prior to and 30 days after diagnosis. Independent predictors of Group I included age > 85 , African American race, non-married, nursing home residence, rural residence, lower comorbidity score, diagnosis before 2000, AJCC Stage II-IV, left sided or rectal tumor site, and emergency presentation. Patients without colonoscopy were also less likely to undergo surgical resection (OR 0.55, CI 0.52-0.59). In a Cox proportional hazards model that adjusted for demographics, stage and treatment, not undergoing colonoscopy was associated with a higher risk of death (HR 1.31, CI 1.28-1.33). Conclusions: In this large, population based analysis, almost 20% of newly diagnosed colorectal cancer patients did not undergo colonoscopy at the time of diagnosis. Although these patients were more likely to be elderly with advanced disease, lack of colonoscopy appears to be an indicator of emergency presentation, less aggressive treatment and poorer prognosis.

S1133

Effectiveness of Third Eye Retroscope in Detection of Colonic Adenomas in Elderly Patients (> 65 Years)

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Introduction: Colonoscopy is the gold standard for detection of colon adenomas and polyps, but polyps can be missed behind folds. The Third Eye® Retroscope® (TER) (Avantis Medical Systems, Inc., Sunnyvale, CA) is a disposable device used in conjunction with standard colonoscopes that provides a retroflexed view during the entire time of withdrawal. Studies have shown that the TER can increase detection of colon polyps. Aim: To evaluate the additional detection rate of colonic adenomas with TER during colonoscopy in elderly patients (> 65 years). Methods: Patients scheduled for screening, surveillance or diagnostic colonoscopy were included. Twenty subjects were planned for each investigator. Patients underwent exam with a standard colonoscopy along with TER. Detection of adenomas and other polyps was recorded whether only by forward view, by both forward and retrograde view or only retrograde view. Primary outcomes were adenoma detection with standard colonoscopy and increase in detection rate with TER. A sub-analysis segmented patients into age groups (< 65 vs. > 65 years) and quartiles by order of procedure. Results: 15 investigators at 9 centers evaluated 298 patients. Of those patients, 68 (26%) were > 65 years (F=42, M=26). In all subjects, additional detection rates of adenomas by TER were 13.8% (> 65 years) and 16.9% (0-64 years). In quartile 4, after each endoscopist had completed at least 15 procedures with TER, the detection rates with TER were 26.7% (> 65 years) and 23.5% (0-64 years). For subjects age 65 or older in all quartiles, the mean additional detection rate with the Retroscope for adenomas of all sizes was 13.8% (p<0.01), for medium-size adenomas (> 6 mm) was 25.0% (p<0.01) and for large adenomas (> 10 mm) was 33.0% (p<0.01). Results are summarized in the table below. Conclusion: This trended data suggests that the Retroscope is effective in detecting clinically significant medium and large size adenomas as well as small adenomas, and that the device provides at least as much benefit for Medicare-age patients (> 65 years) as for younger patients. The detection rate is higher for medium and large size adenomas. Additional detection with TER of all polyps and adenomas by size in subjects age 65 or older (N = 68)

	All Polyps			Adenomas		
	Any size	≥ 6 mm	≥ 10 mm	Any size	≥ 6 mm	≥ 10 mm
Colonoscopy	44	12	8	29	8	6
TER	8	4	3	4	2	2
Additional with TER (p value)	18.2% (<0.01)	33.3% (<0.01)	37.5% (<0.01)	13.8% (<0.01)	25.0% (<0.01)	33.3% (<0.01)

S1134

Adverse Effects of an Organized Colorectal Cancer Screening Program With Guaiac-Based Fecal Occult Blood Test

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Aim: to assess the adverse effects (AE) of a colorectal cancer (CRC) screening program with guaiac-based fecal occult blood test (gFOBT). Methods: Identification of AE of the organized CRC screening program with biennial gFOBT in progress in Alsace since 2003 through 3 methods: 1) voluntary reporting by gastroenterologists, 2) retrospective postal surveys addressed to GPs and 3) to persons explored by colonoscopy. Results: Overall, 7206 colonoscopic procedures were performed and 58 serious AE recorded: 9 (1.2%) perforations, 36 (5.0%) bleeding, 6 postpolypectomy syndromes, 3 infectious complications, 2 deep vein thromboses, 1 myocardial infarction and 1 acute urinary retention. Their severity was mild in 27.6% of cases, moderate in 50.0% and severe in 22.4%. They resulted in 53 hospitalizations (264 nights), 9 surgical operations (2 temporary stomas), 22 endoscopic procedures and 9 blood transfusions. The overall serious AE rate was 8.0‰ colonoscopies (2.1 / 10 000 gFOBTs) and 10.3‰ colonoscopies (2.7 / 10 000 gFOBTs) in 2825 people having the 3 information sources available. It was correlated with the yield of colonoscopy, number of polyps and size of the largest polyp removed: no neoplasia (1.2‰), non-advanced adenoma (9.6‰, p<0.01), advanced neoplasia (20.7‰, p=0.03); no polyp (1.0‰), single polyp (8.1‰), multiple polyps (24.5‰, p<0.001); polyp measuring ≤ 5 mm (3.2‰), 6-9 mm (12.7‰), ≥ 10 mm (27.8‰, p<0.001). One serious AE was encountered for 36.6 advanced neoplasia detected. 65.5% of serious AE were notified by gastroenterologists, 31.0% by GPs and 65.5% by screened persons. 852 (69.6%) GPs and 4731 (65.7%) screened persons answered the surveys. Among the latter, 404 people (8.5%) reported minor AE: abdominal pain (2.8%), change in bowel habits (2.6%), bloating (2.4%) and nausea/vomiting (0.7%). CRC screening generated a great anxiety in 13.1% of people, lasting in 22.6% of cases. The most unpleasant remembrance was the bowel cleansing in 36.4% of people, the mail announcing the positive gFOBT result in 27.3% and the period waiting for the gFOBT result in 20.9%. Conclusion: Unless the 3 sources of information are surveyed (gastroenterologists, GPs and screened persons), the rate of AE is underestimated. Reporting by gastroenterologists detects only two thirds of serious AE. The risk of serious AE is correlated with the yield of colonoscopy, from 1 of 1000 normal procedures to 2 of 100 procedures with advanced neoplasia. In the real world, the AE of CRC screening with gFOBT are more frequent than previously reported: 1 serious AE for 100 colonoscopic procedures and 3729 gFOBTs performed. The invited population must be informed of these figures.

S1135

Comparison With Contrast Enhance Ultrasonography With Sonazoid and FDG PET-CT for Hepatic Metastasis From Gastrointestinal Tract Cancer

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Aim: contrast enhanced ultrasonography (CEUS) with Perflubutane (Sonazoid, Daiichisankyo Co.,Ltd.) has reported to be useful for diagnosing hepatocellular carcinoma. However, there is a paucity regarding diagnostic efficacy of CEUS for hepatic metastasis. We analyzed the diagnostic efficacy of Sonazoid for hepatic metastasis of gastrointestinal tract cancers, and compared with the results of 18-fluoro-2-deoxyglucose (FDG) positron emission tomography (PET)-computed tomography (CT). Method: Subjects were 109 Japanese patients with gastrointestinal tract cancer who admitted to our hospital between January 2007 and July 2009. PET-CT and CEUS were performed within 1 month. After volus injection with Sonazoid (0.5ml/body), livers were scanned by CEUS in 2 phases: arterial and liver-specific (Kupffer) phase using EUB7500 (Hitachi Medical Co.,Ltd.). The results of PET-CT and other abdominal imaging examinations were not shown to operators of CEUS. When tumor was detected as defect in Kupffer phase, Sonazoid was injected again to scans the arterial phase. In the cases with different results between CEUS and PET-CT, results of hepatic resection, dynamic CT and/or magnetic resonance imaging, as well as followed-up clinical courses in some cases, were used for assistant diagnostic methods. We compared the diagnostic efficacy between CEUS and PET-CT. Results: Among 109 subjects, 34 had upper gastrointestinal tract cancer (esophageal 4, gastric 29, duodenal 1), and 76 had colorectal cancer (1 case was complicated with gastric cancer). Averages of age, body mass index (BMI) and maximum diameter of hepatic metastasis were 68.7 \pm 11.0 years, 21.2 \pm 4.2, and 29.2 \pm 20.5 mm. Finally, hepatic metastases were diagnosed in 30. When the number of metastatic nodules were included in the analyses, the sensitivities and specificities of CEUS (89.7% and 97.5%, respectively) and PET-CT (83.3% and 98.8%, respectively) were similar. In arterial phase, 5 metastatic tumors were hypervascular, 4 were enhanced lightly, 16 were ring-enhanced, and 5 were hypovascular. In 2 cases, the number of tumor was counted smaller because of fatty liver which disturbed the deep view of CEUS. In 5 cases of PET-CT, all small metastatic nodules (1cm \leq) could not be detected, which could be by CEUS. Smallest diameter of tumor which was detected by CEUS was 4mm. Conclusion: CEUS with Sonazoid had similar efficacy to diagnose hepatic metastasis as PET-CT. The institution which can perform PET-CT is limited and the cost for PET-CT is more expensive than CEUS. CEUS was found to be a useful modality for the screening of hepatic metastasis of gastrointestinal tract cancer.

S1136

A New Blood-Based Screening Test for Colorectal Cancer: A Pilot Study

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Background: Colorectal cancer (CRC) can be cured when diagnosed in its early or precancerous (adenoma) stages. Mostly due to poor compliance towards invasive screening procedures, detection rates for adenoma and early CRCs are still low. Available non-invasive screening tests have unfortunately low sensitivity and specificity performances. Therefore, there is a large unmet need calling for a cost-effective, reliable and non-invasive test to screen for early neoplastic and pre-neoplastic lesions. Objective: To develop a routine screening test