C-GH-8

Histogenesis of Human Colorectal Adenomas and Hyperplastic Polyps – The Role of Cell Proliferation and Crypt Fission

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Background: The histogenesis of human colorectal hyperplastic polyps and colorectal adenomas is poorly understood even now.

Method: Human colorectal adenomas, hyperplastic polyps and normal colorectal mucosae (FAP and HNPCC patients were excluded) were obtained during colonoscopy, and microdissected into individual crypts. The morphology, cell proliferation characteristics and fission indices of crypts isolated from these lesions were then studied.

Results: Crypts isolated from colorectal adenomas and colorectal hyperplastic polyps were significantly larger (P<0.001) than crypts from normal colorectal mucosae. Crypt fission was an uncommon event in normal colonic mucosae but common in crypts isolated from adenomas and hyperplastic polyps (P<0.001). Analysis of the distribution of mitoses suggested an upward expansion of the proliferation compartment in adenomas to the surface of the crypt with no reversal of proliferating cell distribution as has previously been described.

Conclusions: Sporadic human colorectal adenomas and hyperplastic polyps grow by the process of crypt fission. Expansion of the proliferative compartment was demonstrated in crypts from adenomas, consistent with de-regulation of cell cycle control.

C-GH-9

Evaluation of Three Near Patient Tests for the Diagnosis of *Helicobacter pylori* (*H. pylori*) Infection in Chinese Population

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Background and Aims: The best non-invasive test suitable for the near patient testing of *H. pylori* infection remains to be defined in Chinese population. Three near patients test (20 minutes ^{13}C-urea breath test (^{13}C-UBT), rapid urine test for *H. pylori* antibody (RAPIRUN *H. pylori* antibody) and a new whole blood test (Signify *H. pylori* for *H. pylori* antibody) will be evaluated for this purpose.

Method: Pool analysis of 468 consecutive patients referred for upper endoscopy was performed. Combination of rapid urease test (RUT) and histology were used as gold standard. 13C-UBT was performed using a 20 min. 50mg 13C-urea protocol with the omission of test meal. Whole blood sample and urine samples were collected for the detection of anti-*H. pylori* IgG in blood and urine respectively.

Results: 253 (54%) patients were positive for *H. pylori* infection.

	^{13}C-UBT (n=101)	Rapid urine test (n=123)	Whole blood test (n=244)
Sensitivity (%)	100	96.7	84.3
Specificity (%)	96.2	95.2	89.4
Accuracy (%)	98.0	95.9	86.6
Time to obtain results	depends on availability	20 min	5 min

Conclusions: Both rapid urine test and ^{13}C-UBT are the non-invasive test of choice with high accuracy for near patient testing of *H. pylori* infection and may be potentially useful for test and treat/test and referral strategy in primary practice.