PTH-006

TRIMODAL IMAGING TO IDENTIFY MICROSCOPIC FOCI OF SIGNET RING CELLS IN HEREDITARY DIFFUSE GASTRIC CANCER

doi:10.1136/gut.2011.239301.407

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Introduction Patients fulfilling the criteria for Hereditary Diffuse Gastric Cancer (HDGC) may undergo endoscopic surveillance to help detect microscopic foci of signet ring cells and guide decisions about prophylactic gastrectomy. Current guidelines suggest a minimum of 30 random gastric biopsies sampled annually in patients fulfilling HDGC criteria. However, the wide distribution and small size of malignant foci makes them difficult to identify. The authors report the first prospective study to examine whether tri-modal imaging can aid detection of microscopic foci.

Methods Patients fulfilling the criteria for HDGC attended for trimodal imaging endoscopy. A strict protocol was used with N-acetyl cysteine as a mucolytic, the stomach was inspected with white light followed by autofluorescence (AFI) to highlight areas of concern which were then visualised using narrow band imaging (NBI). A single endoscopist performed all procedures and a second endoscopist confirmed all findings at the time. In addition to any targeted biopsies, 24 random biopsies (prepylorus × 4, antrum × 4, t-zone × 6, body × 4, fundus × 4 and cardia × 2) were taken in each case and all specimens were examined by an expert histopathologist.

Results Between October 2007 to March 2009, a total of 19 patients (7 with confirmed genetic CDH1 mutation) underwent 27 endoscopic surveillance procedures. The most common abnormality seen was pale areas in the antrum (8/27). These could be appreciated with white light endoscopy and were further highlighted with AFI with 2 showing abnormal pit patterns on NBI. Additional targeted biopsies were taken in 16 procedures. A total of 9 cases were positive for signet cells (4 fundus, 3 transitional zone, 1 body and 1 unspecified) 7 of the 9 positive cases were picked up solely on random biopsies. The two positive targeted biopsies were from a pale area at the transitional zone in the same patient who did not wish to undergo gastrectomy.

Conclusion Careful inspection with standard white light and multiple random biopsies will detect microscopic foci in these

Table 1 PTH-006 Endoscopic findings for targeted biopsies

	White light imaging	Abnormal AFI	Abnormal NBI	Positive signet cells
Pale areas	8	5	3	2
Nodular	2	1	0	0
Polyps	5	1	0	0
Others	4	2	0	0

high risk patients. Trimodal imaging helps delineate pale areas of concern but did not pick up additional foci.

Competing interests None.

Keywords hereditary diffuse gastric cancer, trimodal imaging.