

## BSG ENDOSCOPY SECTION SYMPOSIUM & FREE PAPERS: 'Developing endoscopy research: national and international perspectives'

OC-091

### A RANDOMISED TRIAL OF NBI FOR ADENOMA DETECTION IN HIGH RISK GROUPS: FLAT ADENOMAS, BOWEL PREPARATION AND ENDOSCOPIST SUB-GROUP ANALYSIS

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**Introduction** Narrow band imaging (NBI) has been investigated as a technique to improve adenoma detection; however most randomised studies have shown no differences from white light examination (WLE). We recently reported no significant difference in adenoma detection rate for our trial of NBI for detection in high risk patients (n=214; 73% NBI vs 66% WLE, p=0.26)<sup>1</sup>; however patients were not evenly matched by gender in NBI and WLE groups. We therefore undertook a multivariate analysis to account for this and investigate other subgroups

**Methods** The primary outcome measure, patients with at least one adenoma detected, was reanalysed after adjustment for demographic and clinical variables including all of: age, gender, indication (3+ adenomas, cancer follow up, +ve FOBT), family history of colorectal cancer, bowel preparation (good or adequate), endoscopist (three operators), and withdrawal time, using logistic regression. Count outcomes (polyp numbers by type) were analysed by Poisson regression. An interaction was noted with both endoscopist and bowel preparation, which were analysed as subgroups

**Results** Following multivariate analysis there was no significant difference for the primary outcome measure between WLE and NBI arms, p=0.30, OR (adjusted) 1.46 (95% CI 0.72 to 2.96). No difference was seen for total number of adenomas, total polyps, advanced adenomas or non-adenomatous polyps; however the mean (SD) number of flat adenomas was higher in NBI arm 0.4 (0.9) versus 0.2 (0.4), adjusted comparison ratio 2.58 (1.42–4.68), p=0.002.

**Table 1** OC-091 Comparison ratios for numbers of adenomas detected by WLE or NBI

Subgroup	Ratio (95% CI)	p value
Endoscopist A	1.05 (0.83 to 1.34)	0.67
Endoscopist B	1.92 (1.07 to 3.44)	<b>0.03</b>
Endoscopist C	0.71 (0.38 to 1.32)	0.29
Adequate bowel prep	1.01 (0.82 to 1.23)	0.94
Good bowel prep	1.55 (1.11 to 2.16)	<b>0.01</b>

One of three endoscopists performed significantly better with NBI (table 1). In patients with good bowel prep NBI significantly outperformed WLE for numbers of adenomas detected, but there was no difference with adequate bowel prep (table 1).

**Conclusion** Overall, after adjustment, NBI did not improve adenoma detection; however detection of flat adenomas appears improved. One of three endoscopists performed better with NBI than white light, and NBI was more effective in patients with good bowel preparation. Under optimal conditions, NBI may assist some endoscopists to optimise detection particularly of flat adenomas. Aggregated results of randomised controlled trials may obscure situations where advanced imaging techniques could provide benefit.

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**Competing interests** None.

**Keywords** bowel preparation, colonic polyp, colonoscopy, flat adenoma, narrow band imaging.

## REFERENCE

1. East JE, Suzuki N, Guenther T, *et al.* Narrow Band Imaging (NBI) for Adenoma Detection in High Risk Patients: A Randomised, Controlled Trial. *Gastrointest Endosc* 2010;71:AB142.