Endoscopy symposium: improving quality of white light

OC-045 HIGH DEFINITION WHITE LIGHT ENDOSCOPY AND I-SCAN FOR SMALL COLONIC POLYP EVALUATION : RESULTS OF THE HISCOPE STUDY

doi:10.1136/gutjnl-2013-304907.044

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Introduction Standard definition white light endoscopy is inadequate for in-vivo characterisation of small colonic polyps. The ASGE has identified prediction of polyp surveillance intervals and negative predictive value for adenomatous histology of diminutive recto-sigmoid polyps as key targets for new technologies. High definition white light endoscopy is now available but there is little data on it's use.

Methods We aimed to examine the in-vivo characterisation accuracy of high definition white light endoscopy (HDWL) plus a novel electronic imaging modality – i-Scan (Pentax, Japan). Patients undergoing colonoscopy through the UK Bowel Cancer Screening Programme were prospectively recruited. All colonoscopies were performed by a single expert endoscopist with extensive experience in in-vivo diagnosis. Procedures were performed with Pentax EC-3890Li 1.2 Megapixel HD+ colonoscopes and EPKi processor. An initial classification & validation exercise was carried out to determine the optimum i-Scan settings for in-vivo diagnosis, and to develop a novel in-vivo diagnosis assessment tool. All polyps < 10mm in size were assessed sequentially with HDWL and i-Scan. Optical magnification was not used. Predicted histology (non-neoplastic, adenoma, cancer) was recorded for both modalities and compared to the final histopathological diagnosis as reported by an expert gastrointestinal pathologist. Predictions were rated as high or low confidence assessments. Results were analysed for sensitivity and specificity for neoplasia, overall accuracy, and negative predictive value for rectosigmoid polyps ≤5 mm as recommended by the ASGE PIVI statement.

Results 84 patients were recruited, in whom 209 polyps < 10 mm were included. Mean polyp diameter was 4.3mm, median 4mm. 134 polyps were neoplastic and 75 non-neoplastic. There were no significant differences in sensitivity (95.5% vs 97.0%) and specificity (89.3% vs 90.7%) for neoplasia and overall diagnostic accuracy (93.3% vs 94.7%) between HDWL and i-Scan. Negative predictive value for adenomatous histology of rectosigmoid polyps ≤5 mm was 100% with both modalities. Polyp surveillance intervals using in-vivo assessment of diminutive polyps were correct in 95% and 97% of patients with HDWL and i-Scan respectively.

Abstract OC-045 Table 1

	HDWL	i-Scan	HDWL vs i-Scan p value
Sensitivity %	95.5	97.0	0.5
Specificity %	89.3	90.7	1.0
Accuracy %	93.3	94.7	1.0

Conclusion

1. Excellent in vivo diagnostic accuracy, in excess of 90% can be achieved with HDWL alone.
2. No significant gains in accuracy over HDWL were noted with i-Scan when used with a 1.2Megapixel HD colonoscope
3. Both HDWL and i-Scan fulfil the ASGE criteria for 'resect and discard' and 'do not resect' strategies for diminutive polyps

Disclosure of Interest None Declared

OC-046 ACETIC ACID CHROMOSCOPY SIGNIFICANTLY IMPROVES NEOPLASIA DETECTION RATES AS COMPARED TO CLEVELAND CLINIC PROTOCOL DURING BARRETT'S SURVEILLANCE

doi:10.1136/gutjnl-2013-304907.045

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Introduction Cost effectiveness of Barrett's surveillance has recently being questioned due to the low neoplasia detection rate. Acetic acid chromoscopy (AAC) has been shown to improve neoplasia detection in Barrett's oesophagus but not in surveillance population. The aim of this study is to compare the effectiveness of AAC with Cleveland clinic protocol (2 cm quadrantic) guided biopsies at detecting high risk neoplasia during Barrett's surveillance.

Methods Prospective Cohort study comparing two different Barrett's surveillance strategies. All patients who underwent Barrett's surveillance between 2008–12 were recorded on a Barrett's database. All neoplasias were independently reviewed by two GI Pathologists. Barrett's surveillance patients were randomly allocated to acetic acid chromoscopy lists (cohort B) or protocol guided biopsy (Cohort A) lists. AAC involved targeted biopsy of area of concern & 3 additional biopsies from lower, middle & top end of Barrett's. Protocol guided were taken as quadrantic biopsies every 2 cm & any visible abnormality. Fisher's exact test was used for statistical analysis.

Results N = 982 Barrett's surveillance gastroscopy between 2008–12. Median age was *66* years & Median Barrett's length was *4.5* cm (range: 1–20). Male: Female = *3.3:1*.

Protocol guided Cohort A N = 655/982(66.7%). 7/655 (1%) patients were found to have high grade dysplasia (HGD) & 3/655(0.4%) had T-1 cancers with an overall high risk neoplasia detection rate of 10/655(1.5%).

Acetic acid Cohort B N = 327/982(33.2%). 18/327(5.5%) patients were found to have HGD & 14/327(4.2%) had T-1 cancers with an overall high risk neoplasia detection rate of 32/327(9.7%). This shows a statistically significant 6.5 fold (p = 0.0001) increased detection of high risk neoplasia with acetic acid guided biopsies as compared to protocol guided biopsies in Barrett's surveillance.

Abstract OC-046 Table 1

	Protocol biopsies cohort (Cohort A) N = 655	AAC cohort (Cohort B) N = 327	Gain	p value
HGD	7/655 (1.0%)	18/327 (5.5%)	5.5 fold	0.0001
T1 Cancers	3/655 (0.4%)	14/327 (4.2%)	10 fold	0.0001
Total	10/655 (1.5%)	32/327 (9.7%)	6.5 fold	0.0001

Conclusion This is the first report from a large exclusively Barrett's surveillance population. Our data demonstrates that acetic acid chromoscopy significantly (6.5 fold) improves the detection of high risk neoplasia in Barrett's surveillance as compared to the current standard of 2 cm quadrantic biopsies. AAC also results in significantly less number of biopsies taken so overall it will be very cost-effective. This questions the validity of the current standard of non targeted protocol guided biopsies during Barrett's surveillance.

Disclosure of Interest None Declared

Gut: first published as 10.1136/gutjnl-2013-304907.045 on 4 June 2013. Downloaded from http://gut.bmj.com/ on April 20, 2024 by guest. Protected by copyright.