Endoscopy

OWE-001 ACETIC ACID GUIDED BIOPSIES VERSUS MAPPING BIOPSIES FOR BARRETT'S SURVEILLANCE: THE ABBA STUDY

[1]Gaius Longcroft-wheaton*, [1]Carole Fogg, [2]John DeCaestecker, [3]Hugh Barr, [1]David Poller, [4]Bernard Higgins, [1]Lisa Gadeke, [5]Jansuz Jankowski, [1]Pradeep Bhandari*. [1]*Portsmouth Hospitals NHS Trust, Portsmouth, UK*; [2]*Leicester Royal Infirmary, Leicester, UK*; [3]*Gloucestershire Royal Hospital, Gloucester, UK*; [4]*University of Portsmouth, Portsmouth, UK*; [5]*University of Central Lancashire, Preston, UK*

10.1136/gutjnl-2018-BSGAbstracts.1

Introduction Barrett's surveillance traditionally requires mapping biopsies to identify neoplasia. Acetic acid (AA) allows only targeted biopsies, potentially reducing the number of biopsies required. This study aims to compare neoplasia detection with AA targeted biopsies and protocol guided non-targeted biopsies during Barrett's surveillance.

Methods Multicentre randomised crossover feasibility study in UK secondary care. Patients under surveillance for Barrett's metaplasia (>2 cm) with no history of dysplasia or cancer were recruited. All patients underwent two gastroscopies 8 weeks apart, one with AA guided biopsy of abnormal areas only (Portsmouth Protocol) and one with non-targeted mapping biopsies (Seattle Protocol). Neoplasia yield (low grade dysplasia LGD, high grade dysplasia (HGD) and cancer) from each strategy was evaluated and the number of biopsies recorded.

Results 200 patients recruited from 6 centres. Mean age 66 years. 145 were male. Mean length C4M6. 175 patients completing both procedures. The prevalence of LGD, HGD and cancer was 11/192 (5.8%). All HGD and cancer was found with both protocols and confirmed with definitive treatment. One LGD was found with Portsmouth protocol not found with Seattle. 5 LGD were found with Seattle protocol not found with Portsmouth. This difference was not significant (p=0.2188), and on follow up gastroscopy no neoplastic changes were found in any of the LGD cases. 2139 biopsies were taken using Seattle protocol at a cost of £1 25 987 (306 biopsies per neoplasia, £18,023). 226 biopsies with Portsmouth Protocol at a cost of £13 311 (75 biopsies per neoplasia, £6,656) a 4 fold difference. In terms of HGD/cancer, 1070 biopsies/neoplasia found using Seattle protocol and 113 biopsies/neoplasia using Portsmouth Protocol, a 9.5 fold difference.

Conclusions This is the first RCT comparing these techniques. No HGD or cancer was missed with either technique. There was a 4 fold reduction in biopsies per neoplasia detected with Portsmouth compared to Seattle protocol and a 9.5 fold difference when restricted to high risk neoplasia. If implemented nationally then this could lead to a massive reduction in histopathology work load and costs. LGD remains controversial and we believe inflammation could have resulted in false positive LGD as subsequent OGD and biopsies did not reveal any LGD. This feasibility data would support a definitive trial of AA targeted biopsies in a surveillance population.

OWE-002 SIGNIFICANCE OF BIOPSIES BEFORE LARGE COLORECTAL ENDOSCOPIC RESECTIONS AND HISTOPATHOLOGICAL FEATURES OF HIGH RISK LESIONS

Andrew Emmanuel*, Shraddha Gulati, Monica Ortenzi, Margaret Burt, Bu Hayee, Amyn Haji, Salvador Diaz-Cano. *King's College Hospital, London, UK*

10.1136/gutjnl-2018-BSGAbstracts.2

Introduction Guidelines on endoscopic resection (ER) of colorectal superficial neoplastic lesions (CSNL) recommend against biopsy sampling but many are extensively sampled prior to referral, despite the deleterious effect on ER, to exclude adenocarcinoma or high grade dysplasia (HGD), reflecting a lack of understanding of the incidence and nature of adenocarcinoma or HGD within different morphological sub-types. It is therefore important to define the significance of HGD on biopsy samples and place this in the context of the histopathological characteristics of high risk lesions.

Methods ERs of large (≥2 cm) CSNL were included. Sensitivity and specificity of HGD on biopsy and higher risk morphology (laterally spreading tumour (LST) non-granular/LST mixed nodular type/IIc component) for diagnosing covert invasive adenocarcinoma and confirmed HGD after ER were calculated and compared (Mcnemar's test). In addition, 50 high risk lesions (containing HGD or invasive adenocarcinoma) were subjected to more detailed histopathological analysis.

Results Results from prior biopsy sampling were available for 291 lesions (mean size 62.8 mm). Histopathology after ER revealed HGD in 85 (29%) and invasive adenocarcinoma in 26 (9%). Sensitivity and specificity of HGD on biopsy (n=60) for invasive adenocarcinoma were 50% (95% CI 32%–68%) and 82% (95%–CI 77%–86%), and for confirmed HGD after ER were 47% (95% CI 37%–57%) and 90% (95% CI 85%–94%) respectively. Sensitivity and specificity of high risk morphology (n=124) for HGD after ER were 71% (95% CI 60%–79%) and 69% (95% CI 62%75%) respectively. The sensitivity of high risk morphology was significantly higher than HGD on biopsy sampling (p=0.002).

Detailed histopathological analysis of high risk lesions revealed invasive adenocarcinoma in 40% but a further 18% had non-invasive areas with cytological and architectural features indistinguishable from invasive adenocarcinoma. HGD was multifocal in 56%. The mean size of the focus of HGD was only 5.6 mm, and of adenocarcinoma was 11.0 mm. Mean lesion size was 53.6 mm.

Conclusion Biopsy sampling of large CSNL has no value in excluding high risk lesions and morphology alone has higher sensitivity for high risk lesions. Histopathological analysis of high risk lesions reveals that areas of HGD or adenocarcinoma are very small relative to the lesion size and many contain non-invasive areas which would be cytologically indistinguishable from invasive adenocarcinoma on a biopsy. Despite this, biopsy sampling remains extremely common. Understanding of these findings and improved education regarding accurate lesion assessment may help reduce rates of inappropriate sampling.