EVALUATING THE QUALITY OF ASSESSMENT OF PATIENTS WITH BARRETT'S SEGMENTS AT UPPER GASTROINTESTINAL ENDOSCOPY

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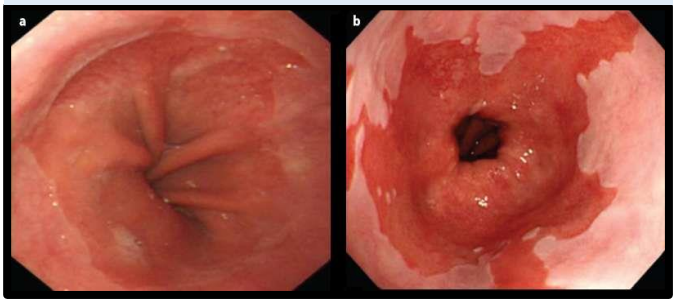
Introduction

Barrett's oesophagus (BO) is a pre-malignant transformation of oesophageal mucosa and endoscopic surveillance is advised for early detection of dysplasia. UK performance standards on assessment and biopsy of a Barrett's segment ensure effective and timely recognition of dysplastic changes. UK audits of post endoscopy upper GI endoscopy (PEUGIC) rates have highlighted missed opportunities to detect early upper GI cancer in Barrett's segments. Local audit drives an understanding of local practice and where service improvements and training can be appropriately directed.

WHAT DOES BARRETT'S OESOPHAGUS LOOK LIKE?

FIGURE 1 - **Image a** shows the normal gastro-oesophageal junction. The stratified squamous mucosa of the oesophagus is a pale pink colour, this meets the darker columnar gastric mucosal lining. The top of the gastric folds are visible. **Image b** shows a segment of Barrett's mucosa – here the oesophageal mucosa as a result of exposure to acid has changed to the darker pink columnar mucosa – this is termed metaplasia. The Prague Classification is used to describe the extent of this change.



Aims

- To compare endoscopic assessment of Barrett's oesophagus in a) patients attending for planned surveillance or b) when identified in the context of other acute indications.
- To assess rates of detection of dysplasia or cancer.
- To identify other areas of pathway management where performance can be improved.

Methods

Using the EMS endoscopic database, we identified patients having upper GI endoscopy from 1 January to 31 March 2024. Endoscopy and histology with an indication or finding of BO were reviewed. Patients with no BO or an ultra-short segment (less than 1cm) were excluded. In patients with proven BO, endoscopic key performance indicators (KPIs) - image quality, blue light imaging (BLI), acetic acid chromoendoscopy, Prague Classification, and Seattle Biopsy Protocol were recorded, as were follow-up arrangements and findings of dysplasia or cancer. KPI performance was compared between planned surveillance or acute indication using Chi square test.

HOW WE CAN USE ENDOSCOPY TO IMPROVE EARLY DETECTION OF DYSPLASIA IN PATIENTS WITH BARRETTS

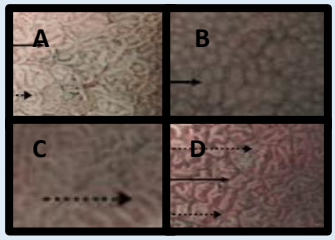


FIGURE 2 – A close look at a non-dysplastic segment of Barrett's mucosa under 'blue light conditions' shows a) curved, b) circular, c) linear, or d) a mix of mucosal cells. The vessels follow an ordered pattern.

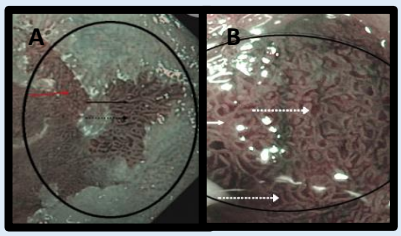


FIGURE 3 – A. Dysplastic areas (black arrows) have prominent or branched vessels with irregular cell patterns. Red arrows show non-dysplastic Barrett's mucosa. **B.** Close up views of high grade dysplasia.

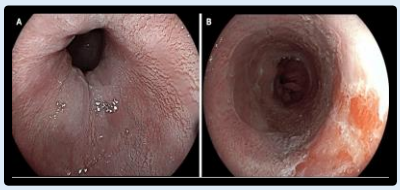


FIGURE 4 – A. Acetic acid when sprayed onto the mucosa reacts with surface glycoproteins to produce surface whitening. **B.** Areas of dysplasia lose the white colour faster than non-dysplastic areas.

Results

91 patients had 'indication or finding' of BO on EMS (31 patients excluded). 60 patients had proven BO – 33 patients (21 M, mean 64.8 yrs) attending for surveillance, 27 patients (20 M, mean 64.3 yrs) scoped for another acute indication. Use of Prague Classification terminology is widely adhered to. Image taking and use of BLI on scope withdrawal needs to improve for all patients. Use of acetic acid dye ($p<0.00001$) and adherence to Seattle biopsy protocol ($p=0.005$) was significantly better in planned surveillance group vs an acute indication. One surveillance patient had treatable high grade dysplasia within a Barrett's segment, two patients in acute group presented with advanced cancer. Delays reviewing histology, repeating biopsies and booking correct next surveillance were seen.

Table – Endoscopic key performance indicators found to have Barrett's segments attending for planned surveillance or other acute indications.

% compliance with KPIs	Good images taken	Blue light imaging used	Acetic acid dye used	Prague classification	Seattle biopsy protocol used
Planned surveillance (n=33)	18 (55%)	12 (36%)	24 (73%)*	33 (100%)	24 (73%)**
Acute indication (n=27)	17 (63%)	5 (19%)	3 (11%)	26 (96%)	10 (37%)
P value	NS	NS	P<0.00001	NS	P=0.005

KEY - *Acetic acid dye spray helps to detect areas of advanced dysplasia; **Seattle Biopsy protocol is a specific pattern of taking segmental biopsies shown to improve pick up rate where dysplasia exists

CONCLUSIONS

1. Endoscopists effectively use the Prague Classification to describe the extent of Barrett's segments.
2. Practice of image taking, biopsy protocol, histology review and adherence to surveillance interval can be improved.
3. The assessment of Barrett's segments is better on planned surveillance lists (compared with acute service lists).
4. All endoscopists need better training to increase the use of blue light imaging and acetic acid dye spray which improve early detection of high grade dysplasia at a treatable stage.
5. Our findings will inform a national training programme in endoscopic assessment of Barrett's oesophagus.