Prospective Observational Cohort Validity Surveillance Endoscopy for Barrett’s Oesophagus

Introduction
Correct endoscopic evaluation of a possible Barrett’s segment is essential for correct diagnosis and avoidance of unnecessary, sometimes lifelong surveillance procedures.

The British society of Gastroenterology guidelines define Barrett’s oesophagus as:

‘an oesophagus in which any portion of the normal distal squamous epithelial lining has been replaced by metaplastic columnar epithelium, which is clearly visible endoscopically (≥1 cm) above the GOJ and confirmed histopathologically from oesophageal biopsies’.

Histopathological confirmation is based on the presence of intestinal metaplasia.

In cases of short segment Barrett’s (<3cm) accurate endoscopic assessment can be difficult.

Our project aimed to determine what proportion of patients with short segment Barrett’s oesophagus at Imperial College Healthcare NHS Trust, were correctly endoscopically diagnosed, and thus, what proportion may be undergoing unnecessary surveillance procedures.

Methods
A retrospective cohort study was performed, identifying cases of short segment Barrett’s (<3cm) at Imperial NHS Trust between 2017 and 2020. Imaging was reviewed by an independent consultant endoscopist to determine whether endoscopic evaluation criteria had been met.

Results
261 cases of short segment Barrett’s were identified. 25 had no available imaging and 10 patients were under surveillance following HALO/EMR or surgery for oesophageal cancer.

Of the remaining 226 cases, 97 had been booked for surveillance, 37 were discharged and 92 were neither discharged nor booked for surveillance.

Of the 97 already booked, 43 (44%) were felt not to meet endoscopic criteria. Of the 92 not yet booked, 49 (53%) did not meet the criteria.

Of the 37 patient discharged, 4 were felt to meet endoscopic criteria and had intestinal metaplasia on histology. Of these, 2 were over the age of 80, 1 moved out of area and 1 was lost to follow up.

Removing cases which did not meet endoscopic criteria for surveillance, would give a 44% reduction in unnecessary gastroscopies for patients who had already been booked. Including those who had not yet been booked, this would give a 49% reduction overall.

Discharged from A&E. 80% of these discharged patients had an Oakland Score >8. 21 (17.2%) of admitted patients received an inpatient lower GI endoscopy; 19% of which received endoscopic therapy. The most commonly identified cause of LGIB was diverticulosis (23.8%). Overall, 82.8% of admitted patients received no inpatient lower GI endoscopy and were managed conservatively. Comparing those who underwent LGI endoscopy versus a watch and wait approach, there was no difference in inpatient mortality (0% vs 4%, p=1.0) or 30-day re-admission rate (9.5% vs 22.8%, p=0.24). However, undergoing inpatient LGI endoscopy was associated with greater median length of stay (8 days vs 3 days, p=0.0002).

Conclusions
Age and co-morbidities complicate risk stratification in the elderly as many will score highly regardless of bleed severity, limiting the role of the Oakland Score. Endoscopic assessment of all elderly patients presenting with LGIB is not performed in real world practice, may not be necessary or even appropriate. Although not in keeping with current guidelines, this watch and wait approach does not appear to be associated with adverse outcomes in the elderly.

Prospective Observational Cohort Validity Study Virtual Reality Endoscopic Simulation

Introduction
The benefit of simulated endoscopy training is inversely proportional to trainee experience. The aim of this study was to determine the face validity of the EndoSim high-fidelity virtual reality simulator (Surgical Science, Gothenburg, Sweden) and establish benchmark metric values to inform research into endoscopy skill acquisition, learning curve trajectory, and curriculum development.

Methods
A pilot cohort of four experts rated simulated exercises by Likert-scale (1-5) following iterative development, 10 experts completed a 13-exercise simulator-based curriculum, with 35 individual amounting to 858 total metric values. Statistical analysis for non-parametric data was used: where multiple comparisons were made, Bonferroni calculation was performed which altered the standard significance of p<0.05 to p<0.0014.

Results
There was no significant difference in expert performance in any metric across all exercises (p>0.0014). Face validity was determined by expert Likert score ratings (1: very poor, 5: very good) and varied between exercises (median Likert-scale score 4 [3-5]). Lower GI exercises: Loop Management and Intubation Case 3, had worse face validity (median Likert-scores 3: [IQR 1-3, and 2-3 respectively]) compared to basic handling exercises: Scope Handling, Visualise Colon 1 and 2 (median scores 4.5: [IQR 3-5, 4-5 and 4-5 respectively]).

Conclusions
Overall, experts felt the EndoSim curriculum had good face validity for basic scope handling skill acquisition: the next focus will be in establishing translation of these skills into clinical practice and as such, its’ future role in Endoscopy training.