The causes of Post Endoscopy Upper Gastrointestinal Cancer in surveillance endoscopy: pilot results from the national root cause analysis project

Introduction

Post endoscopy upper gastrointestinal cancers (PEUGIC) can be missed opportunities to diagnose earlier or even prevent cancer. PEUGIC in patients undergoing endoscopic surveillance for pre-malignant conditions (e.g. Barrett's oesophagus) are an important quality metric. A process for identifying PEUGIC and performing root cause analysis was piloted and the results are described.

Methods

PEUGIC occurring 3-36 months after a non-diagnostic (index) endoscopy between 2017 and 2023 were identified from final or provisional registrations in the National Cancer Registration and Hospital Episode Statistics Datasets held by the National Cancer Registration and Analysis Service. Data for root cause analysis were uploaded onto a secure root cause analysis portal following local hospital review. Only PEUGIC following surveillance endoscopy were included in this analysis.

Results

305 PEUGIC were examined by local reviewers in 13 hospitals in England. 40 were excluded, due to errors in provisional cancer data. Data were available for 220 PEUGIC (83%). 54 PEUGIC (26%) were undergoing surveillance for either Barrett's oesophagus (87%) or chronic atrophic gastritis (13%).

Figure 1 shows the PEUGIC root cause analysis based on World Endoscopy Organisation categorisation (Kamran Endoscopy 2023). Inadequate assessment or decision making was found in 11% of PEUGIC.

Findings in addition to the pre-malignant lesion: oesophageal PEUGIC focal lesion 17%; gastric PEUGIC focal lesion 29%. For oesophageal PEUGIC, 40% were diagnosed 3 months after the recommended surveillance date and 10% were interval cancers. In gastric PEUGIC, 29% were diagnosed 3 months after the recommended surveillance date and 29% were interval cancers.

Gastric PEUGIC tended to present more advanced stage 2 cancer or greater (43% vs 22.5% oesophageal). 2% of oesophageal and 14.3% of gastric PEUGIC were considered potentially avoidable by reviewers. Treatment appeared adversely affected with more invasive or palliative not curative treatment in 17% of oesophageal and 43% of gastric PEUGIC. Reviewers considered that 4% of PEUGIC led directly to a premature death.

Conclusions

Inadequate assessment or decision making was noted in 11% of surveillance PEUGIC. Focal lesions were noted at non-diagnostic endoscopy in 19%. 43% of gastric surveillance patients presented with stage 2 cancer or greater and adverse treatment outcomes occurred in 22% of surveillance PEUGIC.

Figure 1 Root causes of surveillance endoscopy PEUGIC