

Endoscopic Ultrasound (EUS) with tissue sampling has an established role in the diagnosis of pancreaticobiliary (PB) disease. Malignancy occurring following colonoscopy or gastroscopy that does not diagnose cancer is a recognised phenomenon and has been extensively investigated. There is little data on pancreatic cancer (PC) occurring following an EUS without evidence of cancer. We have studied the frequency, time course and potential risk factors for post EUS PC.

Methods PB EUS in England between Jan 2007 – Dec 2016 were identified in Hospital Episodes Statistics. Subjects with a diagnosis of PC made between 6 and 18 months after index PB-EUS were cases of post EUS PC. A logistic regression model examined risk factors for post EUS PC.

Results 79,490 PB EUS procedures were performed in 69,120 subjects, with 8,859 diagnosed with PC within 6 months of index EUS. 563 (0.9%) subjects had post EUS PC (71% 6 to 12 months and 29% 12 to 18 months post EUS): median age was 70 (IQR 61–71) years and 57% were male. The following factors were associated with post EUS PC: chronic pancreatitis (odds ratio 3.11(95%CI 2.24–4.31), $p<0.001$); Charlson comorbidity score >5 (1.44 (1.04–1.98), $p=0.028$); and increasing age (1.01(1.00–1.02), $p=0.005$) Ethnicity, gender and EUS volume were not associated with post EUS PC (table 1). Post EUS PC rates varied in individual providers from: 1.0% in providers undertaking 8 to 111 PB EUS over the study period to 1.1% in providers undertaking 112 to 782 PB EUS and 0.7% in providers undertaking >782 PB EUS.

Conclusions 0.9% of subjects undergoing a PB EUS that did not diagnose PC were diagnosed with PC between 6 and 18

months later. Post EUS PC was associated with chronic pancreatitis, co-morbidity and increasing age.

PTU-114 LEARNING FROM ADVERSE EVENTS: A STUDY OF JAG ENDOSCOPY UNITS

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Introduction To meet JAG accreditation standards, endoscopy services are expected to have processes to identify, respond to and learn from adverse events (AEs). Units provide evidence to demonstrate they have met the set standard through audits of mortality and readmission after endoscopy. We conducted the first analysis of UK-wide learning outcomes from AEs based on mortality and readmission data. The aims were to understand how evidence is collected, describe relevant learning outcomes and resultant actions and processes used to share learning.

Methods A retrospective analysis of JAG 30-day mortality and 8-day readmission evidence from 2013–2018 was undertaken, assessing methods of data collection and documentation of learning outcomes. Data from evidence files were extracted and thematically analysed to identify and categorise learning outcomes and action points. This study was approved by the JAG research committee.

Results Complete data was available for 59 units. 42 units (71%) used the JAG audit proforma in providing evidence. Where no JAG proforma was utilised, data was sourced from other audit summaries (14%), PowerPoint slides (8%) or other tabulated data (7%). 35 units (59%) documented learning outcomes following readmission or mortality, with 85% stating that outcomes were discussed in a formalised meeting.

Learning outcomes and action points are summarised below:

Abstract PTU-113 Table 1 Multiple Logistic Regression of factors associated with post EUS PC

	Odds Ratio	P value	Lower 95% CI	Upper 95% CI
Age				
Increasing years	1.01	0.005	1.00	1.02
Sex	<i>Baseline male</i>			
Female	0.84	0.063	0.70	1.01
Deprivation Quintile	<i>Baseline 1</i>			
2	0.88	0.409	0.66	1.18
3	0.74	0.047	0.55	1.00
4	0.82	0.175	0.62	1.09
5	0.79	0.112	0.59	1.06
Unknown	1.00			
Ethnicity	<i>Baseline White</i>			
Asian	1.13	0.688	0.62	2.05
Black	1.29	0.472	0.65	2.58
Mixed	0.56	0.564	0.08	4.08
Other	2.13	0.004	1.27	3.57
Unknown	15.01	0.000	11.78	19.14
Charlson score	<i>Baseline 0</i>			
1–5	1.15	0.235	0.91	1.46
> 5	1.44	0.028	1.04	1.98
Chronic pancreatitis at index EUS	<i>Baseline No</i>			
Yes	3.11	0.000	2.24	4.32
Centre volume tertile	<i>Baseline > 782 (Highest volume)</i>			
< 8	4.54	0.171	0.52	39.56
8–111	3.15	0.268	0.41	24.02
112–782	2.70	0.337	0.36	20.42

Abstract PTU-114 Table 1

Learning Outcomes	Action Points
High-risk patients	Systems
1. Increasing numbers	• Updating referral pathways
• Case selection	• Updating vetting pathways
• Clear communication	• Review of bowel preparation protocols
• Clear documentation	• Updating patient information leaflets
• Careful planning Pre-assessment	• Post-procedure safety-netting
• Screening renal function	Training
• Screening patients with renal impairment	• Guidance updates
• Clear instruction for bleeding risks Endoscopist factors	• Upskilling
• Decision-making	• Nurse education Improving AE
- Therapy	Data
- Procedure cessation	• Real time data analysis
• Knowledge	• Increasing audit frequency
• Skills	Shared Learning & Feedback
	• Face-to-face feedback
	• Email feedback
	• Promoting reflective practice
	• Unit meetings

Conclusions Learning outcomes centre around managing high-risk patients, pre-assessment and endoscopist factors. Developing systems and training are actions in direct response to learning outcomes. Refining data collection methods was identified as a way to improve learning from AEs. There were a variety of methods to disseminate learning and feedback to endoscopists but no discernible mechanisms to share learning between units were identified. There needs to be a more robust way of collecting and collating endoscopy AE data, with a focus on shared learning between services.

PTU-115 TIMING OF ENDOSCOPY AND 30 DAY MORTALITY IN PATIENTS ADMITTED WITH VARICEAL HAEMORRHAGE

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Introduction Variceal haemorrhage carries a high mortality and current UK guidelines recommend endoscopy within 24 hours of admission but this is based on low level of evidence.^{1,2,3} The aim of this evaluation is to assess the association between timing of endoscopy with 30 day mortality in patients admitted with upper gastrointestinal variceal haemorrhage (UGVH). **Methods** A total of 77 cases were retrospectively identified with a diagnosis of UGVH from the 1st of January 2017 to the 31st of December 2017 across three hospital sites in one UK NHS trust. 53 cases were analysed. Patients who did not present with acute UGVH on admission were excluded. Timing of endoscopy was defined as acute (0–12 hours), early (12–24 hours), delayed (>24hours) and calculated from time of admission to time of completion of endoscopy. Outcome measured was 30 day mortality. Fisher's exact test was used for statistical analysis ($p < 0.05$ defined as statistically significant).

Results The mean age of this cohort was 60.5 years old with 62.3% ($n=33$) male and 37.7% ($n=20$) female. Mean and median shock index (SI) at time of presentation were 0.81 and 0.8 (IQR 0.6–0.9) respectively. 73.6% ($n=39$) had procedures performed within 24 hours. 34% ($n=18$) had acute endoscopy, 39.6% ($n=21$) had early endoscopy and 26.4% ($n=14$) had delayed endoscopy. The mean SI for those who had acute endoscopy was highest (0.89) compared to the early (0.78) and delayed endoscopy (0.76) group with mean UKELD scores of 51.6, 52 and 52.5 respectively. Overall 30 day mortality was 15.1% ($n=8$). Mortality rates between each group were as follows: 1) Acute endoscopy- 5.6% ($n=1$), 2) Early endoscopy- 19% ($n=4$), 3) Delayed endoscopy- 21.4% ($n=3$). Statistical analysis showed no association between the different groups and 30 day mortality (acute vs early $p=0.3849$, acute vs delay $p=0.3377$).

Conclusion Mortality rate was lowest in the acute endoscopy group although statistical analysis suggested no significant association between timing of endoscopy and 30 day mortality. One may argue potential benefits of acute endoscopy based on the higher mean SI indicating greater mortality risk but a bigger, prospective multi-centre study is required to show the optimal timing and impact that timing of endoscopy may have on mortality for this cohort.

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PTU-116 DELAYED POST SPHINCTEROTOMY BLEEDING AND MANAGEMENT – 4 YEAR SINGLE CENTRE EXPERIENCE

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Introduction Bleeding from endoscopic sphincterotomy (ES) is an important complication of therapeutic ERCP. The frequency of post sphincterotomy bleeding is estimated at 0.3% to 2%. Delayed bleeding can occur anytime from hours up to two weeks after ES. Although several studies have addressed the risk factors for bleeding after ES, there is less information specifically on delayed bleeding.

Aims This study examines factors that influence delayed post ES related bleeding, and reviews its management and outcomes.

Methods We reviewed the records of patients who underwent an OGD within 4 weeks of having an ERCP procedure performed by a gastroenterologist between 2015 to 2018 at the Royal Gwent and Nevill Hall hospitals.

Results Over a 4 year period, 39 patients had an OGD within 4 weeks after an ERCP procedure. Of these, 17 had experienced delayed post ES bleeding at a median of 6 days (range 1–10). The frequency of delayed post ES bleeding in our centre was 1.8%. Most were male 12/17 (70%) and the mean age was 74 years (range 45–97). Patients presented with melaena (41%), hematemesis (24%), haematochezia (6%) or melaena with hematemesis (30%). Out of the 17 patients, three were on aspirin, two were on clopidogrel and three were on warfarin. One had thrombocytopenia and three had a prothrombin time more than 13 seconds. Two had chronic kidney disease and ischaemic heart disease of which one patient was on regular dialysis. Indications for ES were choledocholithiasis (76%), cholangitis (12%) and malignancy (12%). Endotherapy was applied with the following modalities, singly or in combination: adrenaline injection (2 patients), adrenaline injection and heater probe (1 patient), adrenaline injection and hemospray (4 patients), endoscopic clips (1 patient), adrenaline injection and clips (2 patients) and hemospray alone (1 patient). No endotherapy was offered in 6 patients and were managed conservatively. One re-bled in 24 hours and responded to repeat endotherapy with adrenaline injection and hemospray. Four failed endotherapy and needed angiographic embolization. There were no deaths.

Conclusion This study emphasizes that factors such as thrombocytopenia, antiplatelet drugs, anticoagulants and cholangitis confer an increased risk of delayed post sphincterotomy bleeding. Patients who undergo ERCP with sphincterotomy should be warned about the 1.8% risk of delayed bleeding. Current guidelines suggest that ES can be done safely in patients on