cancer diagnosis 2 years before, or after ERCP were excluded. Associations between demographics, co-morbidities and unit ERCP volume were examined by logistic regression analysis. Not needing to undergo repeat ERCP within 90 days was considered a surrogate for successful duct clearance. 

**Results**

98,887 subjects were included, 65.5% were female, their median age was 68 (IQR 52–79) and 72.3%, 13.8% and 13.9% had a Charlson co-morbidity score of 0, 1–4 and >4 respectively. Approximately half were elective procedures (50.8%).

86.6% did not require repeat ERCP within 90 days; 12.1% required 1 repeat; and 1.3% required 2 or more repeats. The following factors were associated with not needing a repeat ERCP: Charlson co-morbidity score >4 (OR 0.83 (95% CI: 0.78–0.88), p<0.001), age >81 (0.82 (0.77–0.88), p<0.001), and outpatient procedures (0.80 (0.76–0.84), p<0.001).

Provider volume, (volume knot 1 (1.00 (1.00–1.00), p=0.133), knot 2 (1.00 (1.00–1.00), p=0.523), knot 3 (1.00 (1.00–1.01), p=0.333)), year of procedure and emergency admission type were not associated with needing a repeat ERCP within 90 days.

Needing a repeat ERCP was associated with: Asian ethnicity (1.18 (1.06–1.31), p=0.002), Black ethnicity (1.22 (1.03–1.45), p=0.023), mixed ethnicity (1.51 (1.14–2.01), p=0.005), age quintile 47–62 (1.10 (1.04–1.17), p=0.001), age 63–72 (1.09 (1.03–1.16), p=0.004) and male gender (1.12 (1.02–1.45), p<0.001).

**Conclusions**

The BSG key performance indicator for stone clearance at first ERCP (>85%) appears to be achieved overall, assuming that no repeat ERCP within 3 months is a marker of successful stone clearance. Not needing a repeat ERCP for common bile duct stones was associated with outpatient procedures, very old and co-morbid subjects.

Increased ERCP volume and year of ERCP (2003–2015) did not change the apparent rate of success of stone clearance at ERCP.

**Mortality Following ERCP for Benign Pathology in England Between 2003 and 2015**

**Introduction**

Recent data on ERCP for the palliation of malignant biliary obstruction demonstrated high mortality and significant variation in outcomes between providers. We have therefore examined ERCP outcomes for in benign pathology.

**Methods**

Hospital Episode Statistics (HES) include diagnostic and procedural data for all hospital attendances in England. HES is linked to the Office for National Statistics to provide mortality data. All subjects undergoing their first ERCP between 2003 and 2015 were included. Subjects with a relevant cancer diagnosis 2 years before, or after ERCP were excluded. Associations between demographics, co-morbidities, unit ERCP volume and mortality were examined by logistic regression analysis.

**Results**

2,018,851 subjects were included. 64.2% were female, median age 67 (IQR 51–79). 70.0%, 13.9% and 16.1% had a Charlson Co-morbidity score of 0, 1–4 and >4 respectively. A majority were during emergency admissions (53.5%).

7 day, 30 day and 12 month mortality was 0.8%, 2.3% and 8.0% respectively. 30 day mortality was 3.5% in emergency cases compared to 0.8% in elective. The re-admission rate within 30 days was 11.7%. Repeat ERCP was required within 90 days in 13.9%.

30 day mortality was positively associated with: male gender (OR 1.24 (95% CI: 1.17–1.32), p<0.001), Black ethnicity (1.55 (1.12–2.14), p=0.008), Charlson co-morbidity score 1–4 (1.18 (1.06–1.31), p=0.002), score >4 (3.55 (3.31–3.81), p<0.001), increasing age quintile 47–62 (3.43 (2.65–4.44), p<0.001), age 63–72 (7.01 (5.48–8.97), p<0.001), age 73–81 (11.50 (9.05–14.62), p<0.001) and age >81 (20.31 (16.03–25.74), p<0.001). Factors associated with reduced mortality included: elective rather than emergency admission (0.37 (0.33–0.40), p<0.001), and day case procedures (0.86 (0.74–0.99), p=0.031). Advancing year of procedure 2004/05 (1.01 (0.87–1.18), p=0.859, 2009/10 (0.71 (0.61–0.83), 2014/15 (0.61, 0.53–0.71, p<0.001) was also associated with reduced mortality. Provider volume was not associated with mortality: volume knot 1 (1.00 (1.00–1.00), p=0.445), knot 2 (1.00 (1.00–1.01), p=0.253), knot 3 (0.99 (0.98–1.01), p=0.288).

**Conclusions**

30 day mortality following ERCP for benign pathology is associated with advancing age, increasing co-morbidity and male gender. Outpatient elective procedures were negatively associated with mortality. Mortality has reduced in recent years, but no variation in mortality was observed based upon provider volume.

**SPYGLASS: A FOUR YEAR EXPERIENCE**

**Introduction**

Diagnostic and therapeutic single operator cholangioscopy (SOC) has increased in importance for stricture assessment and management of choledolithiasis. The technique is often employed under general anaesthetic but can be performed using conscious sedation. The primary aim of this study was assessment of diagnostic accuracy of histology taken for stricture assessment and stone clearance rates during SOC.

**Methods**

A single centre retrospective analysis was performed of consecutive SOCs over 4 years at BRI (tertiary referral centre for South West England and South Wales), including fibreoptic (Spyglass Legacy) and high resolution digital systems (Digital Spyglass). Recorded parameters included sedation/general anaesthetic (GA) dosages, stone clearance, use of electro-hydraulic lithotripsy (EHL), histology, complications, final diagnosis and correlation with histology.

**Results**

Between 2013–2017, 164 patients (mean age 65.4 years (range 22–91); 79 females; 85 males) had 206 SOC procedures, referred from 12 hospitals. 15 SOCs were performed in 2013 compared to 64 in 2017. 54% of patients were referred for stricture assessments, 43% for SOC+EHL; 5 patients had assessment of an indeterminate lesion on imaging. 7 patients had SOC under GA. 97% of patients had