Results 215 patients (median age 73 years, 50.7% males) underwent 250 procedures - 153 patients had a final diagnosis of malignancy and underwent 163 procedures, 62 patients had a final diagnosis of benign pathology and underwent 87 procedures. 246 (98.4%) samples were deemed adequate for cytological analysis.

Results of biliary brushings are enclosed in the table 1

	Inadequate	Benign	Atypical	Suspicious	Malignant
Final diagnosis of malignancy n= 163	4	38	33	28	60
Final diagnosis benign n= 87	0	82	1	4	0
Key					
		False negatives			
		True positives			
		True negatives			
		False positives			

Abstract PTH-014 Table 1

Sensitivity, specificity, positive predictive value (PPV) and negative predictive value (NPV) were 55.1%, 95.4%, 95.6%, and 53.9% respectively [with atypia included as false negative in patients with cancer as final diagnosis]. The overall accuracy of the test was 69.3%.

Conclusion Our study confirms that ERCP guided brush cytology for assessment of biliary stricture can be effective in a non-HPB centre with comparable rates of diagnostic yield to tertiary HPB centres. The low sensitivity (55.1%) indicates that biliary brushing alone is insufficient to rule out malignancy in a significant proportion of patients with a final diagnosis of malignancy. Further adjuncts like EUS and cholangioscopy are required to increase the diagnostic yield in biliary strictures.

REFERENCES

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PTH-015 INFLAMMATORY REACTION PATTERNS AND MOLECULAR GENETICS IN HIGH-GRADE COLORECTAL ADENOMAS

Andrew Emmanuel*, Salvador Diaz-Cano, Shraddha Gulati, Savvas Papagrigoriadis, Bu Hayee, Amyn Haji. *King's College Hospital NHS Foundation Trust, London, UK*

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Introduction Inflammatory stromal changes are frequent findings in large colorectal adenomas that can contribute to neoplastic progression, but their role is not fully established in high-grade adenomas of the colon as predictors of coexistent invasive malignancy.

Methods ER of large colorectal adenomas (2011–2016) were analysed. A subset containing high-grade dysplasia, intramucosal cancer or invasive cancer was identified and subjected to detailed histopathological analysis: ulceration, distribution of high-grade dysplasia, dysplastic nuclear grade, presence/distribution of necrosis, and distribution of tumour-infiltrating

lymphocytes (TIL). Microdissection, DNA extraction and next-generation sequencing using a human clinically relevant tumour panel of 24 genes were performed separately for two areas with the highest morphological grade from each lesion.

Results ER was performed for 418 large (≥ 20 mm) adenomas. Histopathological genetic evaluation was available in 70 high grade cases. The extension of TIL positively correlated with the presence of coexistent adenocarcinoma, along with multifocal intraluminal necrosis and high nuclear grade. The presence of multifocal high-grade dysplasia was driven by different cooperative sets of genetic abnormalities regarding the TIL pattern: high-impact (TP53), and moderate impact (FLT4, ERBB2, RET/RAS/RAF/ERK) for an interface pattern, and high-impact (TP53, PDGFR, FGFR3), and moderate impact (TP53, ERBB2, KRAS, RET/FGFR3) for an interstitial pattern.

Conclusions A more extensive lymphocytic response contributes to the progression of adenomas and is associated with morphological changes of increased risk of adenocarcinoma (multifocal necrosis and high nuclear grade and abnormal TP53). An interface pattern expresses proliferative (receptor kinase) and vascular (FLT4) profile and the interstitial pattern outlines predominantly stromal (PDGFR, FGFR3) features.

PTH-016 RECURRENCE AFTER ADVANCED COLORECTAL ENDOSCOPIC RESECTION RESULTS IN A SUBSTANTIAL COST BURDEN

Andrew Emmanuel*, Sophie Williams, Shraddha Gulati, Christo Lapa, Nishmi Gunasingam, Margaret Burt, Bu Hayee, Amyn Haji. *King's College Hospital NHS Foundation Trust, London, UK*

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Introduction Little is known about the cost of treating recurrence after colorectal endoscopic resection (ER). Endoscopic mucosal resection (EMR) has proven efficacy and safety and is the procedure of choice for the majority of western endoscopists. However, recurrence is not infrequent but no studies examine the cost associated with ER taking into account treatment for recurrence. We evaluated the *total* cost of ER at a tertiary centre.

Methods ER (EMR, ESD and Hybrid ESD) of large (≥ 20 mm) colorectal tumours with at least the first surveillance colonoscopy were included. Surveillance was performed at 3–6 months and 12 months. Procedure costs were based on NHS national tariffs. Total costs included the cost of all endoscopic or surgical treatments and surveillance to 12 months. Cost of treatment for patients with recurrent adenomas and those without were compared.

Results Of 626 ER of large colorectal tumours, 473 (98% of eligible patients) had undergone at least the first surveillance colonoscopy. Overall, recurrence occurred in 69 (14.7%). Patients with recurrence required a median of 2 ERs (range 2–6). 8 patients required surgery for recurrence. Mean cost of treating those with recurrence was £3976 *versus* £1539 for those without ($p < 0.001$). 51% of lesions had been subjected to prior failed attempts at resection or extensive (≥ 6) biopsy sampling and these were significantly more likely to recur (OR 3.8, 95% CI 2.1–6.9, $p < 0.001$). The cost of treating these patients was significantly more than those with minimal or no manipulation ($p = 0.001$). Recurrence was less likely after ESD (OR 0.25, 95% CI 0.08–0.82, $p = 0.01$).