



**Abstract P36 Figure 1** Endoscopy -related PCCRC rate, unit mean, 95% & 99% confidence limits

(1), c (9), d (3). However, in reviewing cases with 2 colonoscopies within 6/12 of diagnosis 3 additional misses were found making a total of 24 endoscopy related PCCRC.

The unadjusted PCCRC was 5.1% vs Endoscopy-related 3.1%

The funnel plot of Endoscopy related PCCRC rates (figure 1) indicated 3 outlying endoscopists

**Conclusions** The limitation of this study was only locally diagnosed CRC were ascertained. Around 5% of our colonoscopies were on patients from a neighbouring trust and additionally patient migration is possible. However, the Audit released by Bowel Cancer Intelligence for 2011–2013 recorded our unadjusted PCCRC at a similar 3.8%.

The case reviews identified 12/39 cases that were clearly not PCCRC (category c & d). This is a substantial barrier to the non-case reviewed PCCRC methodology if used to critique endoscopist's practice. 46% of unadjusted PCCRC cases were not related to endoscopic recognition.

3 Endoscopists (2 locums) were identified with statistically higher PCCRC rates.

Approximately 1 in 1000 colonoscopies may miss a lesion leading to a PCCRC. For individual endoscopist with >200 colonoscopies in this period, PCCRC cases per colonoscopy varied from 3/419 to 0/3176.

### P37 COMPLICATION RATES IN FIRST 30 DAYS POST PEG AND RIG INSERTION: SINGLE TERTIARY CENTRE EXPERIENCE

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**Introduction** Gastrostomy tubes for enteral nutrition are most commonly inserted via percutaneous endoscopic gastrostomy (PEG) or radiologically inserted gastrostomy (RIG) techniques. However, there is no consistent evidence of the safety and efficacy of PEG compared to RIG. 30-day mortality has become considered as the most important surrogate index for evaluating the safety and efficacy of percutaneous gastrostomy.<sup>1</sup> Prophylactic antibiotics have become standard of care in PEGs but not for RIGs. The British Society of Gastroenterology (BSG) has recommended that antibiotic prophylaxis should be given to patients undergoing PEG insertion.<sup>2</sup> The aim of this Audit was to compare the first 30-day complication rates between PEGs and RIGs following their insertion.

**Method** 1 year retrospective analysis of total 200 procedures, PEGs (n=100) and RIGs (n=100) undertaken within the Newcastle Hospitals NHS FT (Freeman Hospital & Royal Victoria Infirmary) between September 2019 and August 2018. Relevant information was obtained from endoscopy records, patient e-records, radiology and microbiology results.

**Results** The main indication for PEG was CVA/Neurodegenerative disorders. However, the most common indication for RIG placement was Head and Neck cancers. Gender split in PEGs (57 M & 43 F), whereas in RIGs (78 M & 22 F). Average age for PEGs 66 years and RIG it was 62 years. In RIG, infection rate was significantly higher (23/100, 23%) compared to PEG (4/100, 4%,  $p < 0.001$ ). Additional complications associated with a RIGs were dislodgement (5/100, 5%), leak 2% (2/100), severe pain requiring imaging 2% (2/100), migration 2% (2/100) and perforation 1% (1/100). In contrast PEG had fewer complications; infection 4/100 (4%), persistent pneumoperitoneum 1/100 (1%) and persistent pain requiring imaging 1/100 (1%). Out of 100 PEGs procedures 99 received prophylactic antibiotic where as in RIGs none received any prophylactic antibiotics.

**Conclusion** We have identified that RIG is associated with more complications especially higher rate of infection (gastrostomy site infection) 23% versus 4%. RIG was associated with other complications as well namely migration, perforation & severe pain, however the incidence was low. We suspect that the high incidence of infection rate in RIGs is associated with their non-use of prophylactic antibiotics. Therefore, we recommend using prophylactic antibiotics in RIG placement similar to its wide use in PEG procedures.

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### P38 HIGH PREVALENCE OF LIVER DISEASE AND OBESITY AMONGST A COLONOSCOPY POPULATION

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**Introduction** Western populations demonstrate a growing burden of obesity and Non-Alcoholic Fatty Liver Disease (NAFLD).<sup>1 2</sup> Our aim was to assess the burden of liver disease, obesity and metabolic syndrome amongst a population attending for colonoscopy.

**Methods** The OSCAR study was a cross sectional study recruiting eligible patients from 12 sites attending for colonoscopy. Patients' completed a medical history and lifestyle questionnaire (including AUDIT-C [screening questionnaire;  $\geq 5$  requires further assessment for alcohol excess]), provide blood samples, and had height/weight/waist circumference measured. Age-adjusted FIB-4 score, Fatty Liver Index<sup>3</sup> (FLI) were measured (>60 highly predictive of hepatic steatosis).

Here we report the prevalence of liver disease, obesity and metabolic syndrome.

**Results** 1430 patients were recruited (BCSP 410 [29%]; symptomatic 1020 [71%]).

Abstract P38 Table 1 Findings

Variable	N (%)
Sex	M 698 (48.8%)
Age	Median 59±13.7 years
Obesity (WHO: BMI>30)	487 (34%)
Central obesity (Waist circumference: M>94 cm, F>80 cm)	1090 (76.2%)
Hypertension*	480 (33.6%)
Type II Diabetes*	181 (12.7%)
Raised HbA1c in non-diabetics	104 (7.3%)
Raised total cholesterol (>6 mmol/L)	255 (19.6%)
Raised triglycerides (>1.7 mmol/L)	290 (22.4%)
Metabolic syndrome (NCEP ATP III criteria)	250 (19.5%)

\*Pre-existing diagnosis

34 patients (2.37%) had a prior diagnosis of NAFLD. 553 patients (44.4%) had a raised FLI>60, and 149 (26.9%) of these had indeterminate or abnormal FIB-4. 158 patients (12.2%) had ALT >40 U/L. Of these, 67 (46.5%) had an indeterminate or abnormal FIB-4. 19 patients had ALT ≥3xULN, of whom only 6 had a prior diagnosis of liver related problem. Of 57 patients with abnormal FIB-4 score, 52 (91%) had not previously been diagnosed with liver disease.

1102 patients (78.7%) consumed alcohol. Of these 593/1102 (53.8%) scored ≥5 in the AUDIT-C questionnaire and 169/1102 (15.3%) drank above recommended limits.

**Conclusions** In a population attending colonoscopy, the burden of fatty liver disease, obesity and metabolic syndrome was high. Many individuals consumed alcohol to excess. These factors are associated with a range of adverse health outcomes, but are potentially modifiable. Endoscopy may provide a 'teachable moment' for delivering brief health behaviour interventions.

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## IMPORTANCE OF METABOLIC SYNDROME IN COLORECTAL NEOPLASIA OUTCOMES: SYSTEMATIC REVIEW AND META-ANALYSIS

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**Introduction** Metabolic syndrome (MetS) is a cluster of factors including hyperglycaemia, hypertension, obesity, hyperlipidaemia and hypercholesterolaemia. It has been suggested that MetS increases the risk of colorectal neoplasia and colorectal cancer (CRC) mortality among general population. This systematic review aimed to examine the association of MetS with 1) recurrent colorectal adenoma or occurrent CRC after adenoma resection 2) CRC-related post-surgical complications 3) CRC survival including overall survival (OS), cancer-specific survival (CSS) and progression-free survival (PFS).

**Methods** The review was conducted according to PRISMA guidelines. MEDLINE, Embase, Scopus and Web of Science

were searched up to 22.11.2019. Eligible studies with extractable hazard ratios (HR) or odds ratios (OR) were included in meta-analyses (where ≥3 studies were available on a specific outcome) using random effects models. I<sup>2</sup>-test was used to assess between-study heterogeneity. Quality appraisal was undertaken with Newcastle-Ottawa score.

**Results** 1108 non-duplicate articles were identified with 61 selected for full text assessment: 20 were eligible and included. These articles used different definitions of MetS: 8 AHA or NCEP ATP III or IDF, 5 modified AHA or ATP III, 5 Chinese Diabetes Society, 2 three of four MetS components.

Two articles reported an insignificant association between MetS and recurrent adenoma. Two articles combined adenoma and CRC as an overall outcome and found an association with MetS (HR=1.33 or 1.42). One article reported a significant association between MetS and recurrent nonadvanced adenoma (OR=1.52) only in women and null associations with neoplasia (which included adenoma and CRC) in both sexes. Five articles reported post-surgical complications in CRC patients: 4 assessed CRC-related post-surgical complications (pooled OR=2.76, 95%CI 0.94–8.15) and 1 combined CRC-related and other post-surgical complications. Ten articles assessed the survival in CRC patients. MetS was statistically significantly associated with CSS (pooled HR=1.80, 95%CI 1.04–3.12) but was not with OS (1.04, 0.94–1.15) or PFS (1.12, 0.89–1.42). Between-study heterogeneity was insignificantly modest in OS studies.

**Conclusions** Our findings suggest that MetS is associated with worse CSS but not with OS, PFS or cancer-related post-surgical complications in CRC patients. Studies on recurrent adenoma or occurrent CRC post adenoma resection are limited. Varying definitions of MetS made comparison of studies difficult and a standardised definition should be developed. Well-designed research is required to better understand the association of outcomes between MetS and colorectal neoplasia.

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## PRELIMINARY RESULTS OF THE OBESITY RELATED COLORECTAL ADENOMA RISK (OSCAR) STUDY

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**Introduction** Obesity and non-alcoholic fatty liver disease (NAFLD) is associated with colorectal neoplasia.<sup>1 2</sup> In the UK, colonoscopy is performed for patient symptoms, Bowel Cancer Screening Programme (BCSP), family history or surveillance. We aimed to further explore obesity and NAFLD as risk factors with a view to developing a risk model.

**Methods** OSCAR was a cross sectional study recruiting patients attending for colonoscopy. Patients' medical history, smoking habits, alcohol intake, medication, family history of CRC, waist circumference/height/weight and bloods results were recorded. Multivariate logistic regression was undertaken to test associations between obesity, NAFLD, other risk factors and colorectal adenomas. Preliminary results are reported.

**Results** 1430 patients were recruited (BCSP 410 [28.6%]; symptomatic 1020 [71.3%]). 698 were male (48.8%) with median age: 59 years. The burden of obesity and liver disease was high (reported in a further abstract).