Conclusion Radiation exposure in Crohn’s disease appears to be increasing despite new modalities such as ultrasound and MRI. The increase is attributable to the increased use of CT scanning, as availability and accuracy of imaging via CT in Crohn’s disease have improved in recent years. With the gradual introduction of low-dose CT scanning, we would hope these levels will fall again in the near future. Furthermore, we observed an increase in the use of plain abdominal films of 87.5%. We feel this may be attributable to the shift in attitude towards treating unwell patients with the increasingly effective and available pharmacological therapies, rather than surgical options, although further audit should be carried out to establish if this is indeed the case.

Disclosure of Interest None Declared

Neoplasia and cancer pathogenesis free papers

**OC-065** THE CANCER RESEARCH UK (CRUK) FUNDED ICGC OESOPHAGEAL ADENOCARCINOMA PROJECT: MRC RESEARCH CENTRE AND CRUK CAMBRIDGE RESEARCH INSTITUTE doi:10.1136/gutjnl-2013-304907.065

1, J M J Weaver, 2 N Shannon, 3 C Ross-Ianes, 4 A Lynch, 5 T Farshew, 6 M Barbera, 7 T A Ong, 8 P Lao-Sireix, 9 M Dunning, 10 L Smith, 11 M Smith, 12 B Carvalho, 13 M O’Donovan, 14 T Underwood, 15 M Murtaza, 16 A May, 17 N Grehan, 18 R Hardwick, 19 J Davies, 20 A Okoumi, 21 S Aparicio, 22 N Rosenfeld, 23 M Eldridge, 24 C Caldas, 25 P Edwards, 26 S Tavare, 27 R Fitzgerald, 28 H Hutchinson-MRC, 29 Cambridge Research Institute, 30 Addenbrooke's Hospital, Cambridge; 31 Cancer Sciences Division, Southampton, UK; 32 Fluidigm Corporation, San Francisco, United States; 33 Oxford ComLab, Oxford; 34 British Columbia Cancer Research Centre, Cambridge, UK; 35 British Columbia Cancer Research Centre, Toronto, Canada

Introduction Esophageal adenocarcinoma (EAC) has one of the fastest rising incidences of any cancer in the western world. With a 5-year survival below 10%, it is one of the most common causes of cancer death in US and UK. Currently little is understood about the genetic alterations that drive the development of EAC. Better understanding of these alterations may allow the development of novel therapeutic approaches.

Methods We have performed whole genome sequencing on 22 cases. Targeted amplicon resequencing of 27 recurrently mutated genes was performed on a validation cohort of 100 further oesophageal adenocarcinomas.

Results In the discover set of 22 OACs we identified recurrent mutations (>3 tumours) in 31 genes including several implicating in tumorigenesis; TP53, CDKN2A, ARID1A. Strikingly in the validation cohort we observed that >30% of EAC samples harbour mutations of one or both of the SWI/SNF complex members ARID1A and SMARCA4. In addition we identified highly recurrent mutations in several additional genes including TRIM58, STT4 and MYO1B.

Conclusion Whole genome sequencing provides an unbiased screen of mutational architecture of OAC. This has allowed the identification of several recurrently mutated genes not previously implicated in this disease providing a unique insight to its pathogenesis.

Disclosure of Interest None Declared

**OC-066** ALGORITHMIC MANAGEMENT OF RADIATION-INDUCED GI SYMPTOMS IS HIGHLY EFFECTIVE: THE ORBIT RANDOMISED CONTROLLED TRIAL doi:10.1136/gutjnl-2013-304907.067

1, H J Andreyev, 2 B Benton, 3 A Lalji, 4 K Pennert, 5 J O Lindsay, 6 J C Norton, 7 Royal Marsden NHS Foundation Trust, 8 Royal Marsden Hospital, London, 9 Barts & The London Hospitals NHS Trust, London, 10 Dept of Clinical and Experimental Oncology, King’s College London & Imperial College Healthcare NHS Trust, London, UK

Introduction Chronic gastrointestinal (GI) symptoms after pelvic radiotherapy are common. Most affected patients never see a GI specialist. We developed a comprehensive algorithm to direct management of new GI symptoms after pelvic radiotherapy. A 3 arm randomised controlled trial was performed to test 2 hypotheses: (1) Algorithm directed intervention is beneficial compared to no intervention (2) outcomes are worse when patients are managed by a nurse rather than a gastroenterologist.

Methods Patients treated with pelvic radiotherapy > 6 months earlier with persisting GI symptoms were randomised to management according to the algorithm by 1. a GI nurse or 2. gastroenterologist or 3. the self help Macmillan booklet “Pelvic Radiotherapy: Possible Late Effects”. After 6 months, booklet arm patients with persisting symptoms could ask to see the gastroenterologist. Patients in the nurse arm were transferred to the gastroenterologist if they had problems beyond the algorithm’s scope. The primary end point was change according to the modified Inflammatory Bowel Disease Questionnaire – bowel sub score (IBDQ-B) at 6 months. Follow up continued until 12 months. The trial had 80% power to answer the 1st hypothesis after randomising 196 patients and the 2ndafter closing the booklet arm, and randomising 22 more patients to gastroenterologist or nurse.