escape mechanisms in these tumours. These data have implications for prognostication and immunotherapy treatment decisions for patients with CA-CRCs.

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016

COMBINED IMPACT AND RESISTANCE TRAINING IN ADULTS WITH STABLE CROHN'S DISEASE: PROTECT RANDOMISED CONTROLLED TRIAL

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Introduction Reduced bone mineral density (BMD) and muscle dysfunction are complications of Crohn's Disease (CD). This study evaluates the effect of exercise on BMD and muscular function in adults with CD.

Methods This was a randomised, parallel-group and assessor-blind trial (Trial registration: ISRCTN11470370). Adults (>16 years) in clinical remission or with a mildly active CD (Crohn's Disease Activity Index <220; Faecal Calprotectin <250 mcg/g) were recruited from The Newcastle Upon Tyne Hospitals NHS Foundation Trust, UK. Eligible patients were randomly allocated (1:1) to receive either a 60-minute, thrice-weekly, 6-month progressive impact and resistance training programme with usual care or usual care only, stratified by gender and disease activity using a computer based programme. Primary outcomes were BMD, (lumbar spine (L2-L4), femoral neck, greater trochanter) and muscle function parameters at 6 months in the intention-to-treat population, with analyses adjusted for baseline values, gender and disease status.

Results Between February 2018 and March 2019, 76 patients were assessed for eligibility, of whom 47 patients were recruited and randomised (68% female; mean age 49.3 [SD 13.0] years) to the exercise intervention (n= 23) or control (n=24). 6-month follow up data were recorded for 43 (91%) of 47 participants. At 6 months, BMD values were superior in the exercise group at the lumbar spine (adjusted mean difference 0.036 g/cm², 95% CI 0.024 to 0.048; p<0.001) and femoral neck (0.018 g/cm², 0.001 to 0.035; p=0.039), but not at the greater trochanter (0.013 g/cm², -0.019 to 0.045; p=0.415). Muscular function parameters were also superior in the exercise group: grip strength (8.3 kg, 6.2 to 10.5; p<0.001), 30-seconds bicep curl test (7 reps, 5 to 8; p<0.001), 30-seconds chair stand test (4 reps, 3 to 6; p<0.001), isokinetic knee extension strength at angular velocities of 60°/s and 180°/s and isokinetic elbow flexion strength at angular velocities of 60°/s and 120°/s (all p<0.001). Three exercise-related adverse events were recorded: light-headedness (n=2) and nausea (n=1).

Conclusions Progressive impact and resistance training is a safe and effective method to enhance BMD and muscular function in adults with CD and should be considered as a therapeutic

option for the preservation of bone and muscle parameters. Due to the small sample size, further larger-scale studies are warranted.

017

MULTI-CENTRE VALIDATION OF UC-CARE: A CANCER RISK PREDICTION TOOL FOR COLITIS-ASSOCIATED LOW GRADE DYSPLASIA

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Introduction Ulcerative colitis (UC) patients diagnosed with low grade dysplasia (LGD) are at increased risk of developing high grade dysplasia (HGD) and colorectal cancer (CRC); together termed advanced neoplasia (AN). We aimed to develop and validate a predictor of AN risk in UC-LGD patients and create a visual risk communication web-tool.

Methods We performed a retrospective multi-centre cohort study. Adult UC patients with an index diagnosis of LGD were identified in four UK tertiary centres between 2001 and 2018. Patients were followed until progression to AN or censoring. Data from a single centre (n=248) was used as a discovery cohort, and Cox proportional hazards regression was performed to create a multivariate risk prediction model based on endoscopic features. The model was then validated on the pooled cohort of patients from the 3 external centres (n=201).

Results In the discovery cohort, the 4 clinical variables that were significantly associated with future AN progression and were included in our final multivariate model were: Presence of endoscopically-visible LGD lesion > 1 cm (HR = 2.8; 95% CI 1.3–6.0; p=0.008), incomplete endoscopic resection of index LGD (HR = 2.9; 95% CI 1.3–6.9; p=0.009), moderate/severe histological inflammation in the 5 years before

Abstract 017 Figure 1 UC-CaRE online risk report. Palming chart demonstrating predicted cumulative risk of advanced neoplasia at 1, 5, and 10 years since LGD diagnosis

index LGD (HR = 3.0; 95% CI 1.3–6.7; $p=0.009$), and multifocal LGD (HR = 2.8; 95% CI 1.3–6.1; $p=0.007$). With this model we stratified the cohort into high and low risk groups, which corresponded to an overall positive predictive value (PPV) 31%, and negative predictive value (NPV) 96% by year 5 of follow-up ($p<0.0001$). To test this stratification criteria, the model was then applied to the external validation cohort and accurately predicted risk groups in this set with PPV 29%, NPV 93% by year 5 of follow-up ($p<0.001$). The final validated model was embedded in a web-based tool to calculate and illustrate patient-specific risk (figure 1).

Conclusions We have designed and externally validated *www.UC-CaRE.uk*, a personalised AN risk prediction webtool to facilitate shared decision-making over the management of LGD.

018 IBD CARE IN 2020: RESULTS FROM THE FIRST IBD UK PATIENT AND SERVICE BENCHMARKING TOOL

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Introduction Aligned to the 2019 IBD Standards, IBD UK developed a national Benchmarking Tool comprising a Service Self-Assessment for healthcare professionals and a Patient Survey. The aim was to qualify current local service performance to facilitate future quality improvement.

Methods The IBD Patient Survey ran from 8/7/19–22/11/19, and predominantly focussed on patient experience in the preceding 12 months. The Service Self-Assessment ran from 1/10/19–31/1/20. Estimates were encouraged where formal audit data was not available.

Results 10222 patients and 166 IBD (Inflammatory Bowel Disease) services (134 adult, 32 paediatric) completed the tools. Services cared for a median of 2000 adult (IQR 1400–3500) or 165 paediatric (IQR 100–280) patients. 38% (12/32) of paediatric and 21% (28/134) adult services saw >90% of patients with suspected IBD within 4 weeks of referral. 54% (1133/2104) of recently diagnosed patients felt what mattered to them was taken into account when making decisions about treatment and care. During a flare 77% (127/166) of services reported being able to respond to >90% of patients contacting the IBD service advice line by the end of the next working day. 61% (6174/10071) of patients reported having contacted their IBD service advice line. When admitted to hospital 54% (89/166) of services reported >90% of patients were seen within 24 hours of admission by an IBD specialist on a gastroenterology ward. For elective surgery 69% (114/166) of services reported waiting times of <18 weeks. 84% (8486/10052) of patients had contact with an IBD nurse specialist. 42% (4036/9677) of patients believed their care to be well-coordinated between their GP and gastroenterologist. 30% (3021/9943) of patients discussed wider life goals and priorities as part of planning their care. 79% (7658/9691) of patients reported a lack of opportunities to feedback on their care. The proportion of adult multidisciplinary teams meeting the IBD Standards WTE (Whole Time Equivalent) staffing

recommendations were gastroenterologists 31%; colorectal surgeons 16%; IBD nurse specialists 14%; pharmacists 13%; dietitians 7%; and psychologists 2%; and radiologists 79%.

Conclusions The IBD UK Benchmarking Tool provides location-matched service performance and patient experience data. To support and measure impact of quality improvement, the Tool will be repeated longitudinally.

019 EXPERIENCE OF FAMILY PLANNING OF FEMALE PATIENTS DIAGNOSED WITH INFLAMMATORY BOWEL DISEASE: A QUALITATIVE STUDY

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Background Inflammatory bowel disease (IBD) is a chronic illness affecting patients in their childbearing years. The physical effects of IBD on fertility and pregnancy in IBD in remission (e.g. disease is well controlled during conception and throughout pregnancy) are similar to the normal population. However, many women with IBD have high pregnancy-related anxieties and are more likely not to have children compared to women without IBD. The reasons cited for not having children include high levels of pregnancy-related anxieties have been insufficiently explored. The study aimed to explore the lived experience of family planning of women with inflammatory bowel disease (IBD) and their partners with or without IBD, during the reproductive stages of pre-conception, pregnancy and the postnatal period.

Methods Descriptive phenomenology was used to conduct face-to-face in-depth individual interviews. Purposive sampling was used to select participants with a maximum variation of different demographic and clinical factors, e.g. age, sex, UC/CD diagnosis, disease duration, surgery, geographic location. The NVivo 12 software programme was used to manage the data and Colaizzi's framework was utilised in thematic data analysis.

Results 24 participants (21 women 11CD/10UC and 3 partners) were recruited from out-patient clinics (22 participants) or through the Crohn's and Colitis UK website (2 participants). Women, average age 31 years of age (range 27–38), were at different family planning stages: pre-conception 6 women (3 actively planning family and 3 voluntarily childless); pregnant 8 women and 2 partners; and postpartum 7 women and one partner. Three women's partners, age 32–39, were recruited allowing for additional perspective of the experience being captured. In total 19 hours of interviews data were collected.

Six themes were identified: i) being diagnosed and controlling IBD symptoms; ii) relationship and family planning; iii) sources of information; iv) worries and concerns about pregnancy; v) post pregnancy care and problems; vi) ways of improving care. Women in pre-pregnancy stage and pregnant expressed a need for more information around these themes: (i) their medication and the impact of IBD on the baby; (ii) the genetic risk of passing the disease on. While pregnant and during post-partum stage, women identified a greater need for practical advice and support in relation to breastfeeding and looking after the baby.