PTH-100 DAP3 AND THE DAP3 BINDING CELL DEATH ENHANCER-1 (DELE1) IN HUMAN COLORECTAL CANCER

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10.1136/gutjnl-2021-BSG.303

Introduction Death association protein-3 (DAP3) was discovered as a responsive protein to interferon-gamma induced cell death and may exert this regulation by interacting with DELE1 (DAP3 Binding Cell Death Enhancer 1) (also known as KIAA0141), a newly discovered mitochondrial stress protein in response to cell stress signals. Whilst DAP3 has been shown to be aberrantly expressed in a limited number of solid tumours, eg. breast cancer and in haematological malignancies (leukaemia), little is known about the relationship between DAP3 and DELE1 in other solid cancers. The present study examined the expression levels of both DAP3 and in DELE1 in colorectal cancers.

Methods A cohort of colorectal tissues from ninety four patients were collected after surgery. Gene transcript levels of both DAP3 and DELE1 were quantitatively assessed by real time polymerase chain reaction. DAP3 and DELE1 proteins in normal colon and tumour tissues were evaluated by immunohistochemistry on tissue arrays. Patients' clinical, pathological and outcome information were collected and evaluated against gene expression levels.

Results Colorectal tumours had significantly higher levels of DAP3 than normal colon tissues ($p < 0.001$) but DELE1 did not show a difference between tumour and normal tissues. Levels of DAP3 and DELE1 had significant association with disease free survival ($p < 0.001$ and $p = 0.043$) and overall survival ($p = 0.006$ and $p = 0.068$ respectively). Levels of both DAP3 and DELE1 were seen to markedly differ between patients who developed recurrence from those who did not. Kaplan Meier models showed a significant difference for both DAP3 and DELE1 in time to recurrence. Neither DAP3 nor DELE1 had differing levels in tumours with or without lymph node involvement. An interesting feature of the expression pattern of both DAP3 and DELE1 was that they significantly correlated in normal colorectal tissues ($r = 0.732$, $p < 0.0001$) but the correlation of expression was not seen in tumour tissues ($p < 0.05$). Collectively, DAP3 ($p = 0.002$) and DELE1 ($p = 0.01$), together with T staging ($p = 0.024$) are independent prognostic indicators for the overall survival of the patients. DAP3 ($p = 0.001$), together with TNM staging ($p = 0.003$), Dukes staging ($p = 0.026$) and Nodal status ($p = 0.024$) are also independent predictors of the disease free survival of patients.

Conclusion Death associated protein DAP3 and its binding protein DELE1 are highly aberrant in colorectal cancers and are prognostic factors for patients' clinical outcomes including overall and disease free survival and indicators for local recurrence.

PTH-101 DO WE NEED A LOWER CUT OFF FOR FAECAL HAEMOGLOBIN IN ANAEMIC PATIENTS?

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10.1136/gutjnl-2021-BSG.304

Introduction Patients with anaemia may benefit from a lower limit of detection using Faecal Immunochemical Tests (FIT). Herts Valleys CCG instituted the use of FIT for patients presenting with symptoms meeting DG30 and some lower risk NG12 criteria, excluding those with iron deficiency anaemia, mass or rectal bleeding. In our pathway, symptomatic patients with anaemia were considered positive if their FIT result was detectable. We aim to evaluate the benefit of a lower threshold for FIT for the detection of colorectal cancer (CRC) or Significant Bowel Disease (SBD) in our population referred with bowel symptoms and anaemia.

Methods The medical records of all patients undertaking a FIT sample with a minimum of 6 months follow up between June 2019 and July 2020 were reviewed. Recorded outcomes included colorectal cancer, inflammatory bowel disease and high-risk adenomas (defined as polyps of ≥ 1 cm, ≥ 5 polyps or high-grade dysplasia). FIT analysis was performed using a single OC-Sensor analyser (Eiken Chemical Co., Tokyo, Japan). The lower limit of detection $4\mu\text{g/g}$ (LoD) or a fHb cut off of $\geq 10\mu\text{g/g}$, were taken to assess sensitivity, specificity and predictive values in patients with anaemia. Fisher's exact test was used to assess differences between groups. MedCalc® statistical software was used for all calculations.

Results 3460 patients were reviewed. 17% were anaemic, 68% were not anaemic and in 15% the Haemoglobin was unknown. 2% and 5% of anaemic patients were found to have CRC or SBD compared with 1.5% ($p = 0.3$) and 4% ($p = 0.1$) without anaemia. In patients meeting NG12 criteria, 3.7% and 7.6% of anaemic patients compared with 1.9% and 5% without anaemia had CRC ($p = 0.07$) and SBD ($p = 0.09$) respectively. No additional patients with CRC or SBD were identified with a FIT $4-9\mu\text{g/g}$ and anaemia. There was no change in the sensitivity at a threshold of $4-9\mu\text{g/g}$ + anaemia

Abstract PTH-101 Table 1

CRC	FIT threshold ($\mu\text{g/g}$)	Sensitivity % (95% CI)	Specificity % (95% CI)	PPV % (95% CI)	NPV % (95% CI)
	≥ 4	96 (86–99.5)	49.8 (48–51.5)	2.7 (2.6–2.9)	99.9 (99.5–99.97)
	≥ 4 + Anaemia	94 (83.5–98.8)	74 (72.9–75.8)	5.1 (4.7–5.6)	99.9 (99.7–99.96)
	≥ 10	94 (83.5–98.8)	79 (77.6–80.4)	6.2 (5.6–6.8)	99.9 (99.7–99.96)
SBD	≥ 4	90.2 (83.8–94.7)	50.7 (49–52.4)	6.8 (6.4–7.2)	99.2 (98.7–99.5)
	≥ 4 + Anaemia	87.1 (80.2–92.3)	75.8 (74.3–77.2)	12.5 (11.6–13.5)	99.3 (98.96–99.6)
	≥ 10	87.1 (80.2–92.3)	80.6 (79.2–81.9)	15.1 (13.9–16.4)	99.4 (99.0–99.6)

compared with a threshold of $>10\mu\text{g/g}$, with an increased specificity at a threshold of $>10\mu\text{g/g}$ (table 1).

Conclusions A lower threshold of FIT $>4\mu\text{g/g}$ and anaemia in our population did not improve detection of significant pathology.

PTH-102 BOWEL CANCER SCREENING; VARIATIONS IN ADENOMA DETECTION RATES, CANCER RATES, AND COMFORT SCORES BY ETHNICITY

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10.1136/gutjnl-2021-BSG.305

Introduction Colonoscopy is the investigation of choice after a positive stool test for occult blood (faecal occult blood test or faecal immunochemical test) as part of the Bowel Cancer Screening Programme (BCSP). Uptake of bowel cancer screening can be influenced by many factors; one such factor is ethnicity. ¹ In the BCSP, subject's ethnicity is not routinely recorded by the specialist screening practitioners at the clinic appointment prior to having a colonoscopy. Therefore, data on differences in key performance indicators between different ethnic groups is poor.

Aims & Methods The purpose of this study was to assess differences in adenoma and cancer detection rates and comfort scores within the BCSP.

1508 subjects with a positive faecal occult blood test self-reported their ethnicity prior to colonoscopy. Demographic and endoscopic data was retrieved from the Exeter online database (which is used to record BCSP data). Multivariate logistic regression was used to examine independent variables (age, sex, ethnicity, colonoscopy findings) as predictors of discomfort, adenoma and cancer detection.

The number of non-white/non-South Asian subjects was too small for meaningful comparison, we have analysed differences between white and South Asian populations.

Results The adenoma detection rate (ADR) was greater in White than South Asian patients (43.5% vs. 31.9%; OR: 1.64, $P=0.015$); and in Males than Females (45.7% vs. 38.0%; OR: 1.37, $P=0.003$).

Similarly, cancer detection was higher in White than South Asian patients (6.9% vs. 1.7%; OR: 4.33, $P=0.042$). Female patients were more likely to experience significant discomfort

during colonoscopy (OR: 3.08, $P<0.001$), no differences in comfort scores were found between ethnicities.

Conclusion A lower adenoma detection rate and cancer detection rate was found in South Asian patients requiring colonoscopy as part of bowel cancer screening programme compared to White patients. Comfort scores were not dissimilar between ethnicities, although female participants reported greater discomfort than males.

Understanding the differences between the two largest ethnic groups allows funding to be directed towards communication of these findings to South Asian communities, which may help improve poor attendance to screening programmes that is influenced by fear of adverse findings and the procedure itself.

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PTH-103 BIFIDOBACTERIUM LONGUM 35624(R)AND1714(R) IN ADULTS WITH IRRITABLE BOWEL SYNDROME—RELATIONSHIPS TO SYMPTOM SEVERITY AND COMORBIDITY

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10.1136/gutjnl-2021-BSG.306

Introduction Anxiety and depression are commonly encountered co-morbidities among IBS sufferers. *B. longum* 1714[®] strain has been shown to attenuate stress responses in healthy subjects and *B. longum* 35624[®] has been shown to reduce symptoms in IBS. However, the effect of these two strains in combination on bowel symptoms and psychiatric comorbidities in adults with IBS is unknown.

Method forty female subjects aged 18-55 years with IBS, diagnosed by Rome III criteria, and mild to moderate anxiety and/or depression as determined by the HADs scale were recruited into a prospective, open label study. Subjects received the 'Dual Action' (5×10^8 cfu/day of each strain) for 8-weeks, followed by an 8-week follow up. IBS symptoms were assessed by the IBS-Symptom Severity Scale (IBS-SSS). Improvement in IBS symptoms was defined as a reduction of > 50 on the IBS-SSS and in anxiety and depression as a change in HADS A or HADS-D score of ≥ 2 .

Results At baseline, the median IBS-SSS score was 250 (IQR:190-315) HADs-Anxiety (HADs-A) score and HADs-Depression (HADs-D) scores were 10.43 ± 2.3 and 5.48 ± 3.69 , respectively. Correlation analysis of the IBS-SSS to the HADs-D and HADs-A scores showed a weak correlation for HADs-D ($R^2=0.3246$; $P=0.001$) but no correlation for HADs-A ($R^2=0.3647$; $P=0.2378$).

At the end of the 8-week active treatment phase, 85% of subjects with an IBS-SS score >175 had improved irrespective of the type of IBS. There was a significant improvement ($p<0.0001$) in IBS-SSS as well as the individual Scores of the IBS-SSS such as abdominal pain Severity, abdominal pain frequency, abdominal distension severity, bowel habit satisfaction and quality of life. However once feeding stopped the IBS-SSS dis-improved again and by week 16 (8 weeks post

Abstract PTH-102 Table 1

		N	Polyp detection%	Adenoma detection%	Cancer detection%
Females	Total	608	49.5	38.0	5.6
Males	Total	900	60.8	45.7	7.1
White	Females	545	51.8	39.3	5.9
population	Males	819	62.3	46.3	7.6
	Total	1364	57.8	43.5	6.9
South Asian	Females	52	25.0	23.1	1.9
	Males	67	44.8	38.8	1.5
	Total	119	36.1	31.9	1.7
Total population		1508	56.0	42.6	6.5