Familial Prevalence of Serologic Markers of IBD in a Hispanic Cohort

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BACKGROUND: To describe the prevalence of serologic markers in Hispanics with Inflammatory Bowel Disease (IBD) and their unaffected parents. Serum markers evaluated were ANCA, ASCA IgA, ASCA IgG, Chir1, and OmpC. We determined the association of specific markers with diagnoses: Crohn’s disease (CD) vs ulcerative colitis (UC), examined the presence and levels of serum markers in the unaffected parents (familial controls) and compared them with the subjects with IBD (cases).

METHODS: Subjects were Hispanic participants in the NIDDK IBD Genetics Research Consortium. We selected a familial cohort of trios (subject plus unaffected parents) and tetradis (2 affected siblings plus unaffected parents). IBD diagnosis was established by standard criteria. Serologic markers were performed using ELISA and reported in EU/ml. The results were classified as positive or negative according to the mean levels of each group. Cut-off values for positive serologies in EU/ml were: ANCA = 65, Chir1 = 100, ASCA IgA = 30, ASCA IgG = 40 and OmpC = 20. Descriptive statistics was used to summarize continuous variables using mean and standard deviation. Categorical variables were described using frequencies and percentages. The protocol is approved by the MSC-IRB.

RESULTS: Of the 286 subjects in the cohort, 98 were cases and 188 were controls. There were 90 trios and 64 were included in the analysis. We had CD and 133 had UC for a total of 145 subjects included in the overall study. Subjects with CD were positive for CBR1 (mean = 40.30), I2 (mean = 44.83), ASCA IgG (mean = 43.94) and OmpC (mean = 23.08). The mean values for the parents of both groups were in the negative range. However, within each diagnostic group, several parents had positive antibody titers. Particularly, 18.3% and 21.9% of UC and CD parents, respectively, were positive for I2 and 11.3% and 13% of UC and CD parents, respectively, were positive for OmpC.

CONCLUSION: This study suggests that serologic markers in Hispanics with IBD follow the same pattern of other ethnic groups. Moreover, the prevalence of positive pANCA is similar for UC and CD, and lower for UC and higher for CD than reported in other groups. Likewise, the prevalence of OmpC in subjects with CD was lower than expected (40.6 vs 55%), as was UC (40.6% vs 55%). ASCA has also been reported to be present in 20 to 25% of first-degree relatives of patients with CD, whereas our group showed only 13.2%. These discrepancies deserve further study. They may represent genetic differences between populations, but this has not been shown to date in genetic studies. Variation in environmental exposures based on the geographic location of the population is an attractive consideration and may explain the presence of diverse antibodies in parents of UC and CD subjects.

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Smoking Status Increases Likelihood of Advanced Disease Phenotype in Crohn’s Disease

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BACKGROUND: The relationship between the smoking status and advanced disease phenotype (structuring or penetrating) in patients with Crohn’s disease (CD) is not well known. This study aims to determine whether smoking status increases the likelihood of advanced disease phenotype in CD patients.

METHODS: This was a retrospective study of CD patients seen at McMaster University Medical Centre, in Hamilton, ON, Canada from 2012-2020. Smoking status was dichotomized into two groups, current smokers and ex- or never smokers. Patients were classified as having the primary outcome if their gastroenterologist documented the presence of advanced disease phenotype either during the baseline assessment or during the period of follow-up. Prior knowledge in combination with forward selection was used to develop a multivariate logistic regression model and examine relationships with presence of advanced disease phenotype. The variables considered for the forward selection model included current biologic use, sex, disease duration, disease location, age at diagnosis, and presence of extraintestinal manifestations.

RESULTS: A total of 625 CD patients were included in the analysis, of which 186 had structuring phenotype, 126 had penetrating phenotype and 313 had inflammatory phenotype only. Of the 625 CD patients, 492 had smoking status available – 67 patients were active smokers (13.6%), compared to non/ex-smokers (86.4%). An univariate analysis was performed to determine the primary outcome. The univariate analysis indicated that the odds ratio (OR) of advanced disease phenotype was 1.80 (95% CI, 1.06 - 3.04) for smokers compared to non/ex-smokers. In the multivariate regression analysis, current biologic use was found to have a significant relationship with advanced phenotype (OR 2.14; 95% CI, 1.47 - 3.11). After adjustment for biologic use, active smokers have 1.93 times higher odds of having advanced phenotype (OR 1.93; 95% CI, 0.98 - 2.62). However, sex [male (OR 1.62; 95% CI, 1.09 - 2.39)] and current biologic use (OR 1.61, 95% CI 1.09 - 2.38) were significantly associated with structuring disease.

CONCLUSION: Current smoking is associated with increased likelihood of advanced disease phenotype in CD patients. Additionally, current biologic use and sex were found to be associated with odds advanced phenotype in CD patients. Patients with CD should continue to be advised on the importance of smoking cessation.

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Sarcopenia Defined by Posas Muscle Thickness is Not a Predictor of Post-Operative Outcomes in IBD Patients

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BACKGROUND: Sarcopenia, or muscle mass loss, has been associated with post-operative complications in inflammatory bowel disease (IBD). It is commonly diagnosed by skeletal muscle index (SMI), which is computed by specialized software using several cross-sectional muscle areas at the L3 vertebral body level and is labor intensive. In contrast, psoas muscle thickness normalized to height (PMTH) at the level of the umbilicus on MRI or CT images using a 50th percentile median cut-off (17.8 mm/m in males, 14.8 mm/m in females). Predictive models were created using variables (BMI, age, gender, smoking status, albumin level, INR, platelet count, hemoglobin level, hypertension, diabetes, coronary artery disease, steroid/immunomodulator/biologic use) associated with complications (defined as mortality within 30 days, reoperation within 30 days, readmission within 90 days, RBC transfusion, ICU admission, sepsis, any infection, or DVT/PE). Additional predictive models were created incorporating sarcopenia for comparison. P-