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Epidemiological and phenotypic characteristics of IBD patients in Romania – results of a nationwide hospital-based registry

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Background: Epidemiology of IBD is changing in Eastern Europe as well as in other parts of the Globe as population is adopting a life style similar to western countries. In Romania diagnosis and therapeutic management of patients with IBD is conducted mainly in referral centers.
Aim: We have therefore implemented a web-accessed database to facilitate collection of significant IBD epidemiological data Nationwide in our country (IBDPROSPECT).
Methods: During the study period (2006–2013) significant epidemiological and phenotypical variables were registered from 1217 IBD Romanian patients from 13 referral centers. Statistical analysis was conducted using chi-square test for categorical variables, time data was analysed by log-rank test. P value <0.05 was considered for statistical significance.
Results: Complete phenotypic data for analysis was available from 1009 patients. Phenotypic distribution was: ulcerative colitis (UC) 57.3%, Crohn's disease (CD) 38.9%, and inflammatory bowel disease unclassified (IBD-U) 2.9% with a highly significant geographic difference – higher incidence of CD in the south-west of vs. higher incidence of UC in the north-east of our country ($p < 0.00001$). CD was more frequently encountered in younger patients and in females whereas UC was more prevalent in patients over 40 years (57.6%) and in males (55.5%). First degree relatives with IBD were encountered in 3.3% of cases (3.7% in CD vs 2.9% in UC). 71.5% of patients were residing in urban areas. Location of CD according to Montreal classification was: 14.9% L1, 41.8% L2, 39.3% L3 (4% not specified). 4% of patients were classified as L4 with a strong association of L4 location with L1 (37.9% $p = 0.009$). Perianal disease was present in 14% of cases and was associated with L3 location (54.3%, $p = 0.02$). B1 behaviour at time of inclusion in the registry was registered in 48.8% of patients, B2 in 23.1% and B3 in 12.1% of patients (16% not specified). In patients with UC, E1 extension was encountered in 18.5% of patients, E2 in 50.9% E3 28.4% (2.2% not specified). Mean diagnostic delay was 17.3 months in CD vs. 5.3 months in UC ($p < 0.00001$).
Conclusions: Our study has emphasized several epidemiological and phenotypical features of IBD patients characteristic for Romania: higher UC incidence, south-west to north-east phenotypic gradient, low familial aggregation of cases, colonic involvement of IBD. Phenotypic features might change in the years to come so a thorough investigation of epidemiological factors by a population based cohort is mandatory.

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ERAP-1 gene polymorphisms in Turkish patients with inflammatory bowel diseases and anyklosing spondylitis

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Background: Although genetic factors are known to play a crucial role in the pathogenesis of ankylosing spondylitis (AS), little is known about the molecular mechanisms that are responsible. In that context, endoplasmic reticulum aminopeptidase 1 (ERAP1) gene has been suggested as the most important factor in genetic susceptibility of AS, in addition to HLA-B27. However, there is little known about the relationship between ERAP1 gene and IBD.
The aim of this study is to investigate the prevalence and role of ERAP1 in the pathogenesis of AS as well as inflammatory bowel disease (IBD).
Methods: We included 273 consecutive AS with IBD, 50 Crohn's disease, 39 Ulcerative Colitis patients and 60 patients with enteropatic arthritis and 230 blood donors as healthy control subjects. DNA isolation from the participants' blood samples was performed automatically by the QIAGEN station and we investigated the presence of ERAP1 gene single nucleotide polymorphisms (SNPs) (rs26653) by using the method of competitive allele-specific PCR. We also determined the subgroups of HLA-B27 by PCR-Sequence Specific Primer (SSP). Hardy-Weinberg equilibrium (HWE) testing was carried out for all patient and healthy controls.
Results: The mean age of AS patients were 38.3±11.8, Crohn patients 39.8±12.9, Ulcerative colitis 38.9±12.5, enteropatic arthritis 38.3±11.8 and controls were 38±8.9 years, respectively. The rates of HLA-B27 positivity were 74.3% in AS patients, 18.9% in Crohn's patients, 21.2% in UC patients, 33% in enteropathic arthritis, while this was 4.7% in the control group. We detected rs26653 SNP C/C homozygote genotypes in 35 AS patients (12.8%) and 8 controls (3.5.%), in 11 Crohn (22%) and control 8 (3.5%), in 7 UC patients (18%), in 5 enteropathic arthritis (8.3%) and 8 controls (3.5%). The frequencies of rs26653 SNP C/C homozygous genotypes in patients with AS, Crohn and Ulcerative colitis were found to be statistically significant higher than when compared than that of healthy controls (OR 4.08, 95% CI 1.85–8.98, $p = 0.0005$; OR 7.82, 95% CI 2.9–20.07, $P < 0.00001$; OR 6.07, 95% CI 2.06–17.8, $P = 0.00001$, respectively). rs26653 SNP C/C homozygote genotype frequency in enteropathic arthritis patients when compared to that of the control group wasn't statistically significant (OR 2.39, 95% CI 0.81–7.35, $P = 0.113$).
Conclusions: In our study, our study results demonstrated for the first time that genetic polymorphism in ERAP1 gene single nucleotide polymorphism, rs 26653 is associated with Crohn's disease and Ulcerative colitis in Turkish population. ERAP1 gene, rs 26653 polymorphism plays a role in the diseases pathogenesisof AS, Crohn's disease and Ulcerative colitis in a Turkish population.

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