

Inflammatory bowel disease and African Americans (Reply)

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We thank Dr El-Tawil for his interest in our article. He quoted the extensive study of Mahid *et al.* (1), concluding that in the USA there is no racial difference between African American populations and Caucasian American populations in inflammatory bowel disease (IBD) presentations, as well as in incidence and prevalence of Crohn's disease (CD) and ulcerative colitis (UC). The hypothesis of Dr El-Tawil is that genetic alleles to IBD from Europeans have been transmitted to African Americans since their arrival as slaves in America in the 17th century. He mentions interesting genetic studies (2-5) about estimations of biracial hybridation or genetic admixture. But the precise data given in two studies revealed rather low percentages of Caucasian genes from European ancestry in African Americans: 24.8% +/- 6.2% (3) and a range of 6.8% to 22.5% among different US states (4). Since the discovery of the mutations in the IBD susceptibility gene NOD2/CARD15, many other IBD susceptibility genes have been described (6) but there are important geographic differences in their prevalence. For example, mutations of NOD2/CARD15 are absent in patients with CD in Japan (7). In the study of Crawford *et al.* (5), among 184 Caucasian American patients with CD, 34% had at least one NOD2/CARD15 mutation compared to 6% in 18 African Americans ($P = .015$). The twin study of Tysk *et al.*, first published in 1988 (8) and completed by a long follow-up published in 2003 (9) revealed that the concordance for CD in monozygotic twins was 50.0% and the concordance for UC in monozygotic twins was 18.8%, which means that, besides genetic factors, environmental factors are implicated in the aetiology of IBD. In our previous article (10), we have given evidence from the literature that the prevalence of IBD in sub-Saharan Africa was extremely low and that a migration study of Fellows *et al.* (11) has shown a similar risk of CD among whites and immigrant African-Caribbean adults. In the very large study (analysis of 17.5 million hospital discharges) of Sonnenberg *et al.* (12) on geographic variation of IBD within the USA, crude environmental factors, i.e. North-South and urban/rural gradients, were observed "for blacks and whites alike". More work is needed for determining accurately the nature of these environmental factors (hygiene hypothesis, microorganisms?) acting in conjunction with genetic factors.

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