Ethnicity May Be Important for Studying the Role of the Microbiome and Vitamin D Receptor in IBD

To the Editor:

In the current letter, we reply the comments from Szymczak-Tomczak et al.[1] on our recent paper entitled "Ancient Nuclear Receptor VDR With New Functions: Microbiome and Inflammation."[2] In their letter, they discussed the complexity of the association between the Vdr gene BsmI single nucleotide polymorphism (SNP) and immune response in inflammatory bowel disease (IBD). They showed that *BsmI* SNP of the *Vdr* gene can be engaged in inflammatory response in ulcerative colitis, but not in Crohn's disease, indicating that the type of IBD matters. They believe that the ethnicity of the studied population could determine the relation between *Vdr* variants and immune processes.

We agree with the authors that the ethnicity may be important for better understanding the differences in study results. Furthermore, we would like to emphasize the role of the microbiome, a newly recognized player in IBD. It is known that the geographical/racial variations in microbiome structure have been attributed to differences in host genetics and innate/adaptive immunity.[3] Diet, lifestyle (eg, hygiene), and environment (eg, exposure to pathogens) may conceal the contribution of genetics. Therefore, there is not a universal therapeutic strategy for IBD. We need consider multiple factors, including the environment, genetics, immunity, and microbiome. A geographically tailored approach will be also effective.

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REFERENCES

1. Szymczak-Tomczak et al. Title. *Inflamm Bowel Dis*. 2018;XXX(X):XXX–XXX.
2. Bakke D, Sun J. Ancient nuclear receptor VDR with new functions: microbiome and inflammation. *Inflamm Bowel Dis.* 2018;24:1149–1154.
3. Gupta VK, Paul S, Dutta C. Geography, ethnicity or subsistence-specific variations in human microbiome composition and diversity. *Front Microbiol.* 2017;8:1162.

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