Persistent fluorinated chemicals tied to higher risk for inflammatory bowel disease

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Perfluoroalkyl and polyfluoroalkyl substance (PFAS) exposure is associated with later occurrence of inflammatory bowel disease (IBD), according to a research letter published online Dec. 26 in *Clinical Gastroenterology and Hepatology*.

Manasi Agrawal, M.D., from the Icahn School of Medicine at Mount Sinai in New York City, and colleagues examined the association of PFAS mixture concentrations in prediagnostic serum in patients with adult-onset IBD participating in a pilot study within the preclinical Proteomic Evaluation and Discovery in an IBD Cohort of Tri-service

Subjects study. The analysis included military personnel with Crohn disease (CD), those with ulcerative colitis (UC), and age-, sex-, and race-matched healthy controls (25 in each group).

The researchers found that estimated mean concentrations in the study population were 5.19 µg/L for perfluorooctane sulfonic acid, 2.57 µg/L for perfluorooctanoic acid, and 2.32 µg/L for perfluorohexane sulfonate, which were comparable to PFAS levels in the general U.S. population. Within one year of diagnosis, each one-unit increase in decile mixture of fluorinated compounds in serum samples, including the known PFAS, was associated with higher odds of CD and UC (odds ratios, 2.13 and 1.76, respectively). At all four time points up to 10 years prior to diagnosis, these associations persisted for the PFAS mixture for both CD and UC.

"Studies in larger cohorts, including analyses of pathways perturbed due to PFAS and the impact of new PFAS on disease outcomes, will be informative toward understanding IBD pathways and developing health policies to minimize exposure to harmful chemical pollutants," the authors write.

More information: Manasi Agrawal et al, Per- and poly-fluoroalkyl substances (PFAS) exposure is associated with later occurrence of inflammatory bowel disease, *Clinical Gastroenterology and Hepatology* (2023). DOI: 10.1016/j.cgh.2023.12.020