Psoriasis (PsO) patients at higher risk for serious liver disease

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Compared to controls, patients with psoriasis (PsO) are at higher risk for serious liver disease than patients with rheumatoid arthritis - two autoimmune diseases often treated with similar drugs that can cause liver damage, reports a study this week in the *Journal of Investigative Dermatology* from researchers at the Perelman School of Medicine at the University of Pennsylvania. The study is the first population-based study to simultaneously address the risk for liver disease in patients with these inflammatory diseases and psoriatic arthritis (PsA), in a large population of more than 197,000 PsO patients, 12,000 PsA patients, 54,000 rheumatoid arthritis (RA) patients, and 1.2 million matched controls.

Independent of risk factors commonly seen in liver disease, such as alcohol use and diabetes, the study found that patients with psoriatic skin or joint disease, particularly patients with more severe skin psoriasis, had an elevated risk for serious liver disease. Patients with psoriasis taking a systemic therapy drug like methotrexate (under brand names like Trexall, Rasuvo, and Otrexup PF), had the highest risk, particularly for non-alcoholic fatty liver disease and cirrhosis, while RA patients taking the similar drugs had the lowest liver disease risk.

The study suggests systemic inflammation - which is present in all three diseases—may play a significant role in development of liver disease, particularly in those with psoriasis. At the same time, certain medications use to treat these diseases also can cause liver toxicity. The authors note that future research should delve into whether adequate control of inflammation reduces liver disease risk.

The findings could provide relief for the approximately 7.5 million Americans who suffer from psoriasis each year, a chronic inflammatory disease most commonly evidenced by patches of raised, reddish skin covered with silvery-white scale, the American Academy of Dermatology reports.

"These findings offer evidence for the long held view that psoriasis patients may be more predisposed to liver disease than patients with rheumatoid arthritis," said first author Alexis Ogdie, MD, MSCE, an assistant professor of Medicine and Epidemiology. "Understanding the role of inflammation in liver disease and how the liver can perpetuate inflammation in these conditions can help us advise patients, and their clinicians, on how to more effectively manage their health."

Previous studies have shown an increased prevalence of liver disease in psoriasis patients than in the general population, but this new research adjusts for risk factors for liver disease to determine if having PsO or PsA increases an individual's risk of developing new liver disease, and sheds like on how common liver disease is among patients with these diseases.

The study also offers insights on how the liver responds to specific types and severity of chronic inflammation, and also yields information on how skin disease severity, obesity, diabetes, and medication use play a role in development of liver disease in patients with these conditions.

"Based on these data, physicians should educate psoriasis patients on the increased risk for liver disease and be cautious about the use of hepatoxic medications in these patients, especially when additional risk factors such as diabetes, obesity, or heavy alcohol use are present," said senior author Joel M. Gelfand, MD, MSCE, a professor of Dermatology and Epidemiology.

In addition to Ogdie and Gelfand, the other authors on this study are Sungat K. Grewal, Megan H. Noe, Daniel B. Shin, Junko Takeshita, Zelma C. Chiesa Fuxench, and Rotonya M. Carr, all from Penn.

Ogdie has served as a consultant for Pfizer and Takeda and is a co-investigator on a research grant from Pfizer. Gelfand has served as a consultant for Pfizer Inc., receiving honoraria; and receives research grants from Pfizer Inc. Pfizer had no role in the design, analysis, or reporting of the data.

Provided by Perelman School of Medicine at the University of Pennsylvania