Association of hidradenitis suppurativa and liver disease: A systematic review and meta-analysis

To the Editor: Hidradenitis suppurativa (HS) is a chronic inflammatory disease with significant morbidity. Studies have suggested an association between HS and metabolic syndrome,1 a risk factor for numerous liver pathologies. However, whether HS is independently associated with liver disease remains unclear.2,3 Herein, we aim to resolve this discrepancy through a systematic review and meta-analysis of the literature.

MEDLINE and Embase were searched from inception to October 4, 2021, using keywords “hidradenitis” and “liver disease” according to Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) guidelines (International prospective register of systematic reviews (PROSPERO) CRD42021228708). Of 246 records, 6 case-control, 1 cross-sectional, and 2 cohort studies, published between 2001 and 2022, were included, totaling 42,791 patients with HS (Fig 1). According to the Newcastle-Ottawa scale, all studies were rated “high” quality (Supplementary Data, available via Mendeley at https://www.doi.org/10.17632/z46my2brw6.1).

Patients with HS had increased prevalence (38.5% to 72.9%) and odds (2.79-7.75) of nonalcoholic fatty liver disease (NAFLD) when adjusting for confounders, such as age, body mass index, smoking, diabetes, hypertension, dyslipidemia, and metabolic syndrome. The wide ranges reported are likely due to heterogenous screening and diagnostic criteria for NAFLD, with varying degrees of sensitivity and specificity across studies. Notably, NAFLD severity may be correlated with HS severity, as one study found that patients with severe HS had increased prevalence of liver disease (3.6% vs 1.5%, P < .05).

Patients with HS also had increased prevalence of other types of hepatobiliary disease. Across studies, increased prevalence (0.5% vs 0.4%, P < .001) and odds (odds ratio = 1.27, 95% confidence interval = 1.04-1.54, P = .02) of alcoholic fatty liver disease were reported. Additionally, increased odds of hepatitis B were found across studies (odds ratio = 1.47, 95% confidence interval = 1.12-1.93, P = .005). HS was not associated with increased odds of gallstones, hepatitis A, hepatitis C, or increased risk of biliary or liver cancer across studies.

Although patients with liver disease are known to be at risk for advanced fibrosis and hepatocellular carcinoma, an association between HS and cirrhosis, biliary cancer, and liver cancer was not found across a small number of studies. However, these findings may be influenced by survival bias, especially considering the increased all-cause mortality in patients with HS. Further high-quality studies are required to investigate these associations.

The association between HS and liver pathology is hypothesized to result from chronic systemic inflammation. Patients with HS have increased levels of adipokines (leptin and adiponectin),5 which regulate hepatic fat accumulation, and proinflammatory cytokines (interleukin-1β, interleukin-6, interleukin-23, and tumor necrosis factor α), which stimulate hepatic inflammation, cell necrosis and apoptosis, and induction of fibrosis, leading to the potential development and progression of liver disease.1,2
Limitations include a lack of ethnic diversity across studies and the paucity of studies investigating the association of certain hepatic conditions and HS, with some outcomes only being investigated by single studies.

Patients with HS should be informed of their possible increased risk of liver disease, particularly NAFLD, alcoholic fatty liver disease, and hepatitis B. Age-appropriate screening and counseling on modifiable risk factors such as weight management, smoking cessation, and alcohol intake may be beneficial. Appropriate liver workup, including liver enzymes, function tests, and imaging, should also be considered in patients with HS presenting with symptoms suggestive of liver disease.

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Conflicts of interest

None disclosed.

REFERENCES


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