Drug-induced liver injury: 6 recent reports on risk factors, outcomes

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Drug-induced liver injury can occur following the use of several different drugs, both prescription and over-the-counter, and is more common among adults than children. Additionally, the signs and duration of drug-induced liver injury vary widely.

H ealio Gastroenterology and Liver Disease presents the following reports on DILI, including a study that showed acetaminophen was undetectable in more than half of DILI cases, risks related to nonsteroidal anti-inflammatory drugs and combination immunotherapy, and novel liver injury biomarkers.

Acetaminophen undetectable in more than half of related DILI cases

More than half of patients who presented in hospital with acetaminophen-induced acute liver injury or acute liver failure had undetectable levels of acetaminophen, according to a study recently published in *Clinical Gastroenterology and Liver Disease*.

Acetaminophen (APAP) toxicity is the most common cause of ALF in the U.S., according to **Thomas M. Leventhal, MD,** from the University of Kansas Medical Center, and colleagues, with a higher prevalence of unintentional overdoses compared with suicidal attempts. Read more

NSAID, aspirin use increases microscopic colitis risk

Use of nonsteroidal anti-inflammatory drugs and aspirin — but not acetaminophen — correlated with an increased risk for microscopic colitis, according to a presentation at the American College of Gastroenterology Annual Meeting.

“The influence of other common analgesics typically used for the same clinical indications [as NSAIDs], such as aspirin and acetaminophen, has not been extensively studied,” **Kristin E. Burke, MD, MPH,** from the

Massachusetts General Hospital, said during her presentation. “Our goal was to examine the associations between these three and the risk of microscopic colitis in two large prospective cohorts of U.S. women.” Read more

Combination immunotherapy may increase liver injury risk

Patients who received treatment with multiple immunotherapy drugs had increased risks for drug-induced liver injury compared with single therapy courses, as presented at the American College of Gastroenterology Annual Meeting.

“This is a rather new subsection of drug-induced liver injury that has come to our attention since the advent of immunotherapy drugs in the treatment of various different cancers, ranging from metastatic melanoma ... to colorectal cancer and renal cell carcinoma,” **Vivek Bose, MD,** from the Rutgers Robert Wood Johnson Medical Group in New Jersey, said during his presentation. Read more

Researchers establish drug-induced liver injury biomarker references

Researchers established new blood-based biomarker reference intervals to assess drug-induced liver injury and recovery, according to a recently published study.

“There has been significant recent interest and investment by biomarker consortia and DILI networks to further develop and qualify novel DILI biomarker candidates that can provide added value, including mechanistic understanding, to current assessment methods,” **Ben Francis, PhD,** from the University of Liverpool, United Kingdom, and colleagues wrote. Read more

Hypothermic oxygenated machine perfusion reduces bile duct injury after liver transplantation

Dual hypothermic oxygenated machine perfusion, or DHOPE, reduced ischemia-reperfusion injury of bile ducts after transplantation with donation after circulatory death livers, according to a recently published study.

“The results of this study clearly demonstrated a reduction in biliary [ischemia-reperfusion (IR)] injury of DHOPE-preserved [donation after circulatory death (DCD)] livers, compared to DCD livers that did not undergo DHOPE,” **Rianne van Rijn,** PhD student from the University of Groningen, the Netherlands, and colleagues wrote. “These findings provide important new insight in the protective mechanism of end-ischemic DHOPE and are in

line with the clinically observed reduction in the incidence of [non-anastomotic biliary strictures (NAS)] after DCD liver transplantation when DHOPE is applied." Read more

Drug-induced liver injury outcomes similar despite heavy alcohol consumption

Anabolic steroids were the most common cause of drug-induced liver injury among patients with heavy alcohol consumption, according to a recently published study. However, heavy alcohol consumption did not correlate with worse outcomes compared with nondrinkers.

"In an earlier study from the Drug Induced Liver Injury Network (DILIN), alcohol consumption, defined as any alcohol intake in the preceding 12 months, was unexpectedly associated with less severe injury in individuals with DILI," **Lara Dakhoul, MD,** from the Indiana University School of Medicine, and colleagues wrote. "In this report we comprehensively examined the relationship between heavy and non-heavy alcohol consumption and causative agents, characteristics and outcomes of liver injury in a large cohort of prospectively enrolled patients with well characterized DILI." Read more