Risk Factors for Delta Hepatitis in a North American Cohort with Indications for Screening

A study of American patients with hepatitis B (HBV) referred to the NIH was performed to identify risk factors associated with HDV infection. Active HDV was "confirmed" by serum HDV-DNA or histologic HDV antigen staining.

A total of 652 patients were studied, of which 91 were HDV "confirmed." Independent risk factors for HDV included: intravenous drug users, HDV-DNA less than 2000 i.u./mL, ALT greater than 40 units per liter and HDV endemic country of origin.

The discussion indicated that North American patients with HBV and significant risk factors should be screened for HDV.

Da, B., Rahmen, F., Lai, W., et al. "Risk Factors for Delta Hepatitis in a North American Cohort: Who Should Be Screened?" American Journal of Gastroenterology; Vol. 116, January 2021, pp. 206-209.

Risk Factors for Cirrhosis in Long-Term Alcohol Utilization

In order to assist in the discovery of mechanisms and prediction of risk, apart from lifetime alcohol exposure to produce alcohol-related cirrhosis, patients were evaluated, noting that sustained alcoholic intake is necessary, but not sufficient to produce alcohol-related cirrhosis.

A multi-center, case-controlled study (GenomALC) comparing 1293 cases (with alcohol-related cirrhosis, 75.6% male), and 754 controls (with equivalent alcohol exposure, but no evidence of liver disease, 73.6% male) was carried out. Information confirming or excluding cirrhosis and on alcoholic intake and other potential risk factors was obtained from clinical recurs and by interview. Case-control differences and risk factors discovered in the GenomALC participants was validated using similar data from 407 cases and 6573 controls from UK Biobank.

The GenomALC case and control groups reported similar lifetime alcoholic intake (1374 vs 1412 kg). Cases had a higher prevalence of diabetes (20.5% vs 6.5%), and higher pre-morbid body mass index (26.37), than controls (24.4). Controls are significantly more likely to have been wine drinkers, coffee drinkers, smokers, and cannabis users than cases. Cases reported a higher proportion of parents who died of liver disease than controls (OR 2.25). Data from UK Biobank confirmed these findings with diabetes, BMI, proportion of alcohol as wine, and coffee consumption.

If these relationships can be identified as causal, measures such as weight loss, intensive treatment of diabetes or prediabetic states, and coffee consumption should reduce the risk of alcohol-related cirrhosis.

Whitfield, J., Masson, S., Liangpunsakul, S., et al. for the GenomALC Consortium. "Obesity, Diabetes, Coffee, Tea, and Cannabis Use Alter Risk for Alcohol-Related Cirrhosis in Two Large Cohorts of High-Risk Drinkers." American Journal of Gastroenterology; January 2021, Vol. 16, pp. 106-115.

Mortality in Patients with Cirrhosis and COVID-19

To evaluate the impact of COVID-19 on the clinical outcome of patients with cirrhosis in a multi-center, retrospective study, patients with cirrhosis and the confirmed severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) infection were enrolled between 3/1/2020 and 3/31/2020. Clinical and biochemical data and diagnosis of COVID-19 at the last outpatient visit were obtained through review of medical records.

A total of 50 patients with cirrhosis and with confirmed SARS-CoV-2 infection were enrolled (age 67, 70% men, 38% virus-related, 52% previously compensated cirrhosis), 64% of patients presented fever, 42% shortness of breath, polypnea, 22% encephalopathy, 96% either hospitalization or a prolonged stay if already in hospital. Respiratory support was necessary in 71%, 52% received antivirals, 80% heparin.

Serum albumin significantly decreased while bilirubin, creatinine and prothrombin time significantly increased at COVID-19 diagnosis, compared to last available data.

The proportion of patients with a MELD score greater than 15 increased from 13% to 26%, acute-on-chronic liver failure and de novo acute liver injury occurred in 14 (28%), and 10 patients, respectively. A total of 17 patients died after a median of 10 days from COVID-19 diagnosis with a 30-day mortality rate of 34%. The severity of lung and liver disease has independently predicted mortality. In patients with cirrhosis, mortality was significantly higher in those with COVID-19 than in those hospitalized for bacterial infections.

It was concluded that COVID-19 is associated with liver function deterioration and elevated mortality in patients with cirrhosis.

Lavarone, M., D'Ambrosio, R., Soria, A., et al. "High Rates of 30-Day Mortality in Patients with Cirrhosis and COVID-19." Journal of Hepatology 2020; Vol. 73, pp. 1063-1071.

Effects of Statin Drugs in Nonalcoholic Fatty Liver Disease

To investigate the role of statins on the development of de novo NAFLD and progression of significant liver fibrosis, a study was carried out, including 11,593,409 subjects from the NHI database of the Republic of Korea. This was entered in 2010 and followed until 2016. NAFLD was diagnosed by calculating fatty liver index (FLI) and significant liver fibrosis was evaluated using the BARD score. Controls were randomly selected at a ratio of 1:5 from individuals who were at risk of becoming case subjects at the time of selection.

Among 5,339,901 subjects that had FLI less than 30 and included in the non-NAFLD cohort, a total of 164,856 subjects eventually had NAFLD develop. The use of statin was associated with a reduced risk of NAFLD development (adjusted odds ratio; AOR 0.66), and was independent of associated diabetes mellitus {DM}; AOR 0.44, without DM, AOR 7.1). From 712,262 subjects with FLI greater than 60 and selected in the NAFLD cohort, 111,257 subjects showed a BARD score greater than 2 and were defined as liver fibrosis cases.

The use of statins reduces the risk of significant liver fibrosis (AOR 0.43, independent of diabetes, with DM; AOR 0.31, without DM, AOR 0.52).

In this large population-based study, statin use decreased the risk of NAFLD occurrence and the risk of liver fibrosis once NAFLD developed.

Lee, J., Lee, H., Lee, K., Lee, H., Park, J. "Effects of Statin Use on the Development and Progression of Nonalcoholic Fatty Liver Disease: A Nationwide, Nested Case-Controlled Study." American Journal of Gastroenterology, Vol. 116, January 2021, pp. 116-124.

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Gastric Cancer Incidence Among Races and Ethnicities in Patients Age 50 Years and Older

To evaluate the racial and ethnic differences in the incidence of gastric adenocarcinoma worldwide and in the United States, based on a decision analysis, screening for noncardia gastric adenocarcinoma might be cost-effective for non-White individuals 50 years or older. A lack of precise contemporary information on gastric adenocarcinoma incidence in specific anatomic sites for this age group has impeded prevention and early detection programs in the U.S.

To estimate the differences in gastric adenocarcinoma incidence in specific anatomic sites among races and ethnicities in individuals 50 years or older, the California Cancer Registry data from 2011 through 2015 was evaluated to estimate incidences of gastric adenoma in specific anatomic sites for non-Hispanic White (NHW), non-Hispanic black, Hispanic and the seventh largest Asian-American populations. Calculation was carried out as to the differential incidence between non-White groups and NHW, using incidence rate ratios and 95% confidence intervals (CIs).

Compared with NHW subjects, all non-White groups had significantly higher incidences of noncardiac gastric adenocarcinoma. The incidence was highest among Korean-American men 50 years and older (70 cases per 100,000). Compared with NHW subjects 50 years and older, the risk of noncardiac gastric adenocarcinoma was 1.8-fold to 7.3-fold, higher in most non-White groups and 12-fold to 14.5-fold higher among Korean-American men and women 50 years and older, respectively.

Compared with NHW men 50 years and older, all non-White men, except Japanese and Korean-American men had a significantly lower risk of cardia gastric adenocarcinoma.

There was identification of several-fold differences in evidence of gastric adenocarcinoma in specific anatomic sites among racial and ethnic groups, with significant age and sex differences. These findings should be used to develop targeted risk reduction programs for gastric adenocarcinoma.

Shah, S., McKinley, M., Gupta, S., et al. "Population-Based Analysis of Differences in Gastric Cancer Incidence Among Races and Ethnicities in Individuals Aged 50 Years and Older." Gastroenterology 2020; Vol. 159, pp. 1705-1714.

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