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Title: *The Impact of a Global Increase in Hepatitis Delta Virus (HDV) Exposure on the Incidence of Sjögren's Syndrome Diagnosis*

Research Description:

A virus infection has been thought to be one of the causes of Sjogren's syndrome (pSS). Hepatitis delta virus (HDV) was recently detected in the salivary glands of pSS patients and HDV was able to trigger pSS symptoms in a mouse model. HDV infections are normally associated with co-infection with Hepatitis B virus (HBV). Sjogren's patients testing positive for HDV were negative for evidence of an HBV infection suggesting HDV may have changed how it is infecting patients. Preliminary studies of global infectious disease datasets have identified an increase in the number of people being diagnosed with HDV. We hypothesize that this increased global exposure to HDV may result in increased pSS diagnoses. Therefore, we designed a study to evaluate the rates of HDV and pSS diagnoses within the Utah population. These studies will provide the basis for advancing to clinical trials and evaluating HDV exposure routes in pSS patients.

Scientific Abstract:

A viral infection has thought to be one of the triggers in the development of Sjogren's syndrome (pSS). Recently, we identified hepatitis delta virus (HDV) in pSS salivary gland tissue and demonstrated the capacity of HDV to trigger a complete disease phenotype in vivo. Our focus now is to define how patients are being exposed to HDV. Preliminary HDV epidemiological studies have identified a significant increase in diagnosis across 3 continents and are suggestive of a change in viral transmission patterns. We hypothesize that this increase in global HDV exposure may lead to increased pSS development in susceptible populations. This discovery, in connection with the novel HDV profile observed in pSS patients, is highly innovative and warrants immediate investigation. Therefore, we have designed two studies to perform cross-correlative analysis between HDV and pSS diagnoses within the Utah population. These studies will provide the foundation for advancement to clinical trials.