LETTER

Lack of an Association between Autoimmune Pancreatitis and Varicella Zoster Virus

Neal C Patel[1], William C Palmer[2], Murli Krishna[3], Michele D Lewis[4], Michael B Wallace[4]

[1]Department of Gastroenterology and Hepatology, Mayo Clinic Arizona. Scottsdale, AZ, USA.
Departments of [2]Internal Medicine, [3]Pathology, and [4]Gastroenterology and Hepatology, Mayo Clinic Florida. Jacksonville, FL, USA

Dear Sir:

Autoimmune pancreatitis is a form of chronic pancreatitis that was first described by Sarles *et al*. in 1961, and later coined in 1995 by Yoshida *et al*. [1, 2]. Subsequently, two types of autoimmune pancreatitis have been described. Autoimmune pancreatitis type 1 fits the classic description of the disease and is associated with a lymphoplasmacytic sclerosing pancreatitis and an elevated level of immunoglobulin G4 subclass of IgG. Autoimmune pancreatitis type 2 is characterized by a distinct neutrophilic obliterating lesion of the ductal epithelium [3]. Although the histopathological findings of autoimmune pancreatitis are well studied, the risk factors, pathogenesis, and treatments are still not well understood. There have been many hypotheses to the etiology of autoimmune pancreatitis, which are still being studied. One proposed theory is that of microbial mimicry leading to an autoimmune disorder. Several studies have been conducted to evaluate for a link with autoimmune pancreatitis and infectious causes, such as *Helicobacter Pylori*, without identifying a clear relationship [4]. Additionally, there has been a reported link between viral infections and acute pancreatitis, such as Coxackievirus [5].

Beginning several months ago, some of the physicians of our Department of Gastroenterology noticed a general pattern of newly diagnosed autoimmune pancreatitis with recent shingles outbreak or Zoster vaccine administration. To further study the possible association, we conducted a pilot study to examine the incidence of autoimmune pancreatitis with concomitant Varicella Zoster Virus. We identified four patients from the Mayo Clinic Medical Data Trust who had undergone core biopsy or surgical resection of the pancreas and had been diagnosed with autoimmune pancreatitis. All cases of autoimmune pancreatitis were associated with an elevated (more than 1.5 x upper reference limit) IgG4 level as well as histologic changes consistent with the diagnosis. With these four cases of autoimmune pancreatitis identified, we identified two cases for controls with normal pancreatic tissue. Both of these groups of tissue samples had already been collected and were accessed from the Mayo Medical Laboratory. Once the six tissue samples were obtained, we conducted in-situ hybridization assays for Varicella Zoster Virus. We used this technique because it enables localization of the viral DNA in the tissues if present. Finally, we calculated the incidence of Varicella Zoster Virus antibodies in normal pancreatic tissue and in autoimmune pancreatitis tissue samples. Out of the four cases of confirmed autoimmune pancreatitis, zero tissue samples showed evidence of concomitant Varicella

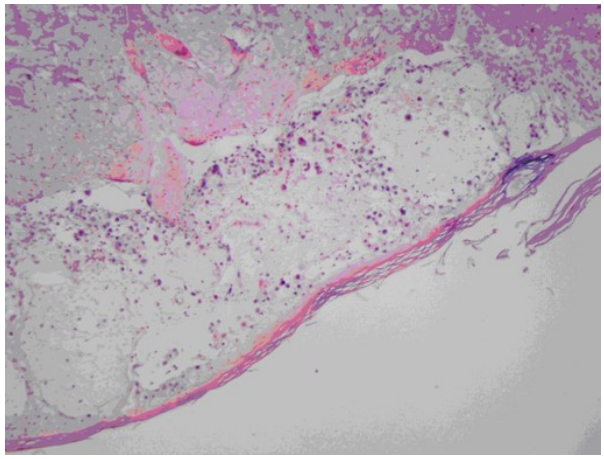

Figure 1. Tissue sample of a positive control for Varicella Zoster Virus in-situ hybridization.

Received October 8th, 2011- Accepted October 18th, 2011

Key words Herpesvirus 3, Human; Herpes Zoster; Immunization; Pancreatitis

Correspondence William C Palmer
Department of Internal Medicine; Mayo Clinic Florida; 4500 San Pablo Road; Jacksonville, FL 32224; USA
Phone: +1-904.953.6722; Fax: +1-904.953.0655
E-mail: palmer.william@mayo.edu

Document URL http://www.joplink.net/prev/201111/12.html

Zoster Virus on in-situ hybridization assays. Positive controls for Varicella Zoster Virus in-situ hybridization were used (Figure 1). Autoimmune pancreatitis is a disease process with many aspects which are still not well understood due to its relatively low incidence. Although we noted an anecdotal association between exposure to Varicella Zoster Virus and onset of autoimmune pancreatitis, we were unable to identify any evidence to support a link between these events. Specifically, none of our tissue samples diagnosed with autoimmune pancreatitis based on histology and elevated serum IgG4 levels had a positive in-situ hybridization assay for Varicella Zoster Virus.

Funding Funding for this project was provided as an unrestricted educational support for fellow research from the TAP Pharmaceutical (Deerfield, IL, USA)

Conflicts on interest We have no conflicts on interest to disclose

References

1. Sarles H, Sarles JC, Muratore R, Guien C. Chronic inflammatory sclerosis of the pancreas - an autonomous pancreatic disease? Am J Dig Dis 1961; 6:688-98. [PMID 13746542]

2. Yoshida K, Toki F, Takeuchi T, Watanabe S, Shiratori K, Hayashi N. Chronic pancreatitis caused by an autoimmune abnormality. Proposal of the concept of autoimmune pancreatitis. Dig Dis Sci 1995; 40:1561-8. [PMID 7628283]

3. Chari S, Murray JA. Autoimmune pancreatitis Part II: The Relapse. Gastroenterology 2008; 134:440-6. [PMID 18242227]

4. Park DH, Kim MH, Chari ST. Recent advances in autoimmune pancreatitis. Gut 2009; 58:1680-9. [PMID 19240063]

5. Huber S, Ramsingh AI. Coxsackievirus-induced pancreatitis. Vir Immunol 2004; 17:358-69. [PMID 15357902]