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Research Article

Autoimmune Diseases Associated With Primary Biliary Cholangitis

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Abstracts: Primary biliary cholangitis (PBC) can frequently coexist with other autoimmune diseases (AID). The aim of our study was to determine the prevalence and type of associated autoimmune diseases in a series of PBC. ***Methods:*** The medical data of 42 PBC patients were evaluated for associated autoimmune diseases. ***Results:*** In the study population, 26 (65%) patients had autoimmune diseases associated, including Autoimmune hepatitis 35.7%, dysthyroidism 12%, Gougerot-Sjogren syndrome 9.5%, rheumatoid arthritis 9.5%, scleroderma 2.3%, Raynaud's phenomenon 2.3%. ***Conclusion:*** A large number of autoimmune diseases were associated with PBC patients. Screening for these diseases must be systematic during PBC in order to deal with them early.

Keywords: Autoimmune diseases, primary biliary cholangitis, autoimmune hepatitis dysthyroidism, Gougerot-Sjogren syndrome.

INTRODUCTION

Primary biliary cholangitis formerly called primary biliary cirrhosis (PBC) is a chronic inflammatory cholestatic disease, of autoimmune mechanism, which progressively destroys the small and medium intrahepatic bile ducts, characterized by the presence in the patient's serum of very specific anti-mitochondrial antibody. This disease can frequently coexist with other autoimmune pathologies (European Association for the Study of the Liver. 2017).

The aim of our study was to determine the prevalence and type of associated autoimmune diseases in a series of PBC.

PATIENTS AND METHODS

This is a retrospective study of 42 patients with primary biliary cholangitis in our hepato-gastroenterology department over a period of 8 years, extending between January 2012 and December 2019.

Each patient underwent an immunological, thyroid test, fasting blood sugar assay, celiac disease serology and duodenal biopsies in the event of positive antibodies and in the case of sicca syndrome; ophthalmologic examination with a biopsy of the salivary glands were performed.

RESULTS

42 cases of CBP were collected. There were 41 women and 1 man. The mean age at diagnosis was 46 years (25-70 years). Most of the patients (n = 27) had no specific history. The main clinical signs were: asthenia (n = 32), jaundice (n = 28), pruritus (n = 26) and hepatomegaly (n = 18).

PBC was associated with another autoimmune disease in 26 cases: Autoimmune hepatitis 35.7% (n = 15), dysthyroidism 12% (n = 5), Gougerot-Sjogren syndrome 9.5% (n = 4), rheumatoid arthritis 9.5% (n = 4) , scleroderma 2.3% (n = 1), Raynaud's phenomenon 2.3% (n = 1). All patients were put on ursodeoxycholic acid with adequate treatment of the associated disease. The course was marked by a complete (n = 22) or incomplete (n = 17) response. 3 patients were lost to follow-up. The most frequent complications were cirrhosis (n = 23), portal hypertension (n = 17), esophageal varices (n = 16) and gastrointestinal bleeding (n = 10). 2 deaths following these complications were noted.

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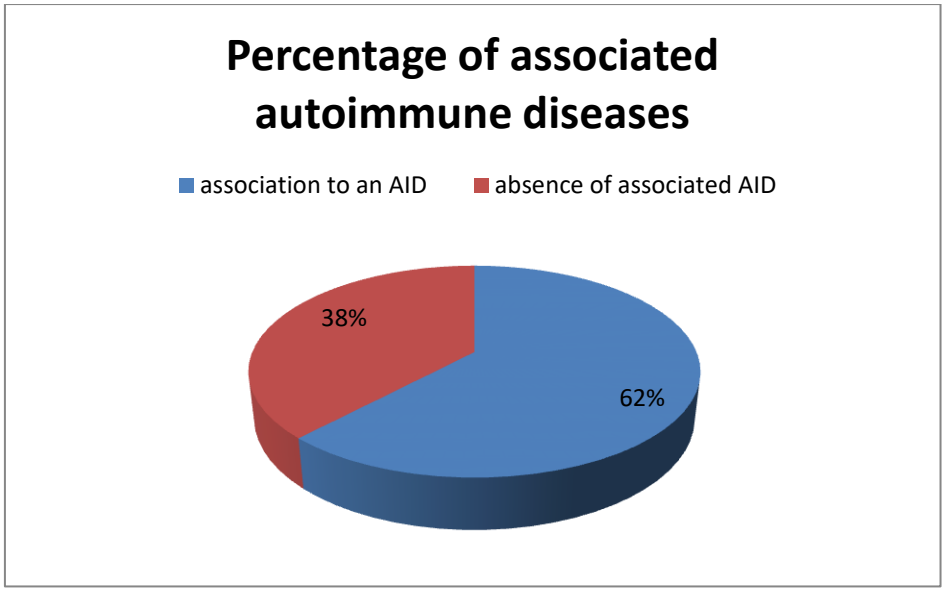

Figure 1: percentage of associated autoimmune diseases

DISCUSSION

Autoimmune diseases are chronic conditions caused by a loss of immunological tolerance to self-antigens. Their etiology remains unclear. It is believed that a combination of genetic, immunological, environmental, and hormonal factors play an important role in their development (Shoenfeld, Y. *et al.,* 2008).

In our study population, AIH is the most commonly associated autoimmune disease and was diagnosed in 35.7% of patients. It may occur simultaneously or sequentially to PBC in 10–20% of cases and are then referred to as hepatic Overlap Syndrome (Gheorghe, L. *et al.,* 2004; & Dienes, H. P. *et al.,* 2002).

Patients with PBC may also present with other organ-specific or systemic autoimmune diseases. Autoimmune thyroid diseases (AITDs) were the second most common associated autoimmune disease in our study and were diagnosed in 12% of patients. The study by Gershwin *et al.,* (Gershwin, M. E. *et al.,* 2005) found a 9% prevalence of AITDs in 1032 PBC patients. The cross-reactivity of antithyroid autoantibodies and the presence of autoreactive Tcells or similar epithelial antigens in both the liver and thyroid may be possible pathophysiological mechanisms that explain the high prevalence of AITDs in patients with PBC (Biró, E. *et al.,* 2006).

Sjogren syndrom was diagnosed in 9.5% of our study population. In two separate studies, a total of 34 Sjs patients with elevated liver enzymes were evaluated (Matsumoto, T. *et al.,* 2005; & Skopouli, F. N. *et al.,* 1994). PBC was diagnosed in 15 of these patients. The target antigen in salivary gland ducts of patients with Sjs has been also shown in the bile duct epithelium of PBC patients (Uddenfeldt, P. *et al.,* 1991).

RA was found in 9.5% of our patients. The association of RA and PBC seems to be common as it was reported in 10% of patients in a large study by Gershwin *et al.,* (Gershwin, M. E. *et al.,* 2005).

Scleroderma and Raynaud's phenomenon were other concurrent autoimmune diseases seen in our study population. Other auto-immune diseases were also reported in other studies such as Vitiligo, autoimmune hemolytic anemia, antiphospholipid syndrome, multiple sclerosis, membranous glomerulonephritis, sarcoidosis, and temporal arteritis (Efe, C. *et al.,* 2012).

The predominance of PBC and other autoimmune diseases in female patients in the present study, as well as in other case series, appears to be associated with the increase in sex chromosome alterations, including epigenetic mutations and alterations in the X chromosome (Dienes, H. P. *et al.,* 2002).

Even though the presence of an uncontrolled autoimmune disease confers a worse prognosis on patients with PBC, the coexistence of PBC with other autoimmune diseases is not generally associated with a greater risk for progression to cirrhosis of the liver or a lower survival rate (Floreani, A. *et al.,* 2015). In fact, some studies have reported less severity in both diseases when they present together.

CONCLUSION

In our series, PBC was associated with another autoimmune disease in 62% of cases. Autoimmune hepatitis seems to be the most common. Screening for

these diseases must be systematic during PBC in order to deal with them early.

REFERENCES

1. Biró, E., Szekanecz, Z., Dankó, K., Kiss, E., Szabó, N. A., Szűcs, G., ... & Czirják, L. (2006). Association of systemic and thyroid autoimmune diseases. *Clinical rheumatology*, *25*(2), 240–245.
2. Dienes, H. P., Erberich, H., Dries, V., Schirmacher, P., & Lohse, A. (2002). Autoimmune hepatitis and overlap syndromes. *Clinics in liver disease*, *6*(2), 349-362.
3. Efe, C., Wahlin, S., Ozaslan, E., Berlot, A. H., Purnak, T., Muratori, L., ... & Muratori, P. (2012). Autoimmune hepatitis/primary biliary cirrhosis overlap syndrome and associated extrahepatic autoimmune diseases. *European journal of gastroenterology & hepatology*, *24*(5), 531-534.
4. European Association for the Study of the Liver. (2017). EASL Clinical Practice Guidelines: The diagnosis and management of patients with primary biliary cholangitis. *Journal of hepatology*, *67*(1), 145-172.
5. Floreani, A., Franceschet, I., Cazzagon, N., Spinazzè, A., Buja, A., Furlan, P., ... & Gershwin, M. E. (2015). Extrahepatic autoimmune conditions associated with primary biliary cirrhosis. *Clinical reviews in allergy & immunology*, *48*(2-3), 192-197.
6. Gershwin, M. E., Selmi, C., Worman, H. J., Gold, E. B., Watnik, M., Utts, J., ... & USA PBC Epidemiology Group. (2005). Risk factors and comorbidities in primary biliary cirrhosis: a controlled interview-based study of 1032 patients. *Hepatology*, *42*(5), 1194-1202.
7. Gheorghe, L., Iacob, S., Gheorghe, C., Iacob, R., Simionov, I., Vadan, R., ... & Toader, C. (2004). Frequency and predictive factors for overlap syndrome between autoimmune hepatitis and primary cholestatic liver disease. *European journal of gastroenterology & hepatology*, *16*(6), 585-592.
8. Matsumoto, T., Morizane, T., Aoki, Y., Yamasaki, S., Nakajima, M., Enomoto, N., ... & Hashimoto, H. (2005). Autoimmune hepatitis in primary Sjögren's syndrome: pathological study of the livers and labial salivary glands in 17 patients with primary Sjögren's syndrome. *Pathology international*, *55*(2), 70-76.
9. Shoenfeld, Y., Blank, M., Abu-Shakra, M., Amital, H., Barzilai, O., Berkun, Y., ... & Krause, I. (2008). The mosaic of autoimmunity: prediction, autoantibodies, and therapy in autoimmune diseases--2008. *The Israel Medical Association Journal*, *10*(1), 13.
10. Skopouli, F. N., Barbatis, C., & Moutsopoulos, H. M. (1994). Liver involvement in primary Sjögren's syndrome. *Rheumatology*, *33*(8), 745-748.
11. Uddenfeldt, P., Danielsson, Å., Forssell, Å., Holm, M., & Östberg, Y. (1991). Features of Sjögren's syndrome in patients with primary biliary cirrhosis. *Journal of internal medicine*, *230*(5), 443-448.