

# Primary biliary cholangitis in a man

## Abstract

Primary biliary Small cholangitis, historically known as primary biliary cirrhosis, occurs most commonly in women with female to male ratio of 9-10:1. Due to its rarity in men, it is commonly missed. We are presenting a case of an elderly man complaining of generalized pruritus. He was found to have elevated serum alkaline phosphatase activity and work up revealed primary biliary cholangitis. This case highlights the importance of workup for chronic liver disease as the elevated serum alkaline activity may be mistakenly attributed to bone, especially in geriatric population.

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## Case

A 66-year-old Caucasian man was referred to the Hepatology clinic because of abnormal serum liver profile. The patient reported pruritus which he described as a sensation of bugs crawling on his body. His need to scratch was so pronounced that it affected his daily activities, including sleep. He did not report any other symptoms. His co-morbidity is only hypertension. He smoked cigarettes, but denied drugs and alcohol use. Physical examination was notable for normal vital signs. The skin was dry and scaly with multiple excoriations scattered throughout the trunk and extremities. He had been seen by the dermatology service and had been given oral antihistamines, and emollient including anti-scabies creams which had not been associated with relief. Skin punch biopsy exhibited superficial perivascular melanophages, without evidence of active dermatitis or parasites. Basic laboratory tests revealed thrombocytopenia of  $51 \times 10^9/L$  (normal  $150-400 \times 10^9/L$ ), serum activities of alkaline phosphatase (ALP), aspartate and alanine transaminases were  $564 U/L$  (Normal:  $25-100 U/L$ ),  $56 U/L$  (normal:  $11-39 U/L$ ) and  $53 U/L$  (Normal:  $11-35 U/L$ ), respectively. His serum bilirubin and albumin concentrations, basic metabolic panel and the rest of the complete blood count were all within normal limits. Chronic liver disease work up excluded viral and metabolic diseases; however, autoimmune tests revealed positivity to anti-mitochondria (AMA) and anti-nuclear antibodies (ANA) at 1:320 and 1:640 titers, respectively. In addition, his gamma glutamyl transferase (GGT) activity was  $1426 IU/L$  (normal:  $15-85 IU/L$ ) and the serum level of immunoglobulin M was  $626 mg/dl$  (normal  $34-210 mg/dl$ ). The patient met international criteria for probable primary biliary cholangitis i.e. increased alkaline phosphatase of more than 6 months and positive anti-mitochondrial antibody. An abdominal computed tomography scan with contrast showed a small peripheral vascular lesion consistent with a hemangioma and mild to moderately enlarged abdominal periportal, portocaval, and celiac lymph nodes measuring  $3.0 \times 1.5 cm$ . A liver biopsy was not proposed because of his thrombocytopenia, which suggested hypersplenism from portal hypertension; thus, an upper gastrointestinal endoscopy was offered to rule out gastroesophageal varices but the patient declined the procedure. He was started on cholestyramine 4grams before and after breakfast for his pruritus<sup>1</sup> and ursodeoxycholic acid for PBC at a dose of  $10-15 mg/kg/day$  with meals.

## Discussion

Primary biliary cholangitis (PBC), historically known as primary

biliary cirrhosis,<sup>2</sup> is characterized by an immunological-mediated attack on the small intrahepatic bile ducts and fibrosis that progress to cirrhosis and liver failure. It occurs most commonly in women with female to male ratio of 9-10:1.<sup>3,4</sup> The incidence of PBC in male in a county in Minnesota was estimated to be 0.7 per 100,000 person-years with median age of diagnosis of 62 years.<sup>5</sup> The gender differences seen in this disease have been postulated. Epidemiologic studies have reported hair dye use, urinary tract infections, smoking and estrogen deficiency as possible risk factors for PBC, however, no specific etiology directly related to men have been described. Sex chromosome abnormalities were also hypothesized, yet, reasons for female predominance are still currently not known.<sup>4,6,7</sup>

The method of diagnosis of PBC does not differ according to gender and should be suspected in the presence of chronic cholestasis, with detection of AMA in serum, and histological evidence of non-suppurative destructive cholangitis.<sup>8</sup> Liver histology can provide information on the stage of the disease, which was classified by Scheuer by non suppurative destructive cholangitis also known as florid bile duct lesion as stage 1, proliferation of bile duct as stage 2, fibrosis as stage 3 and biliary cirrhosis as stage 4.<sup>9</sup> Enlarged lymph nodes have been reported as a frequent finding in PBC. The lymph nodes can be found in portocaval, peri-hepatic, peripancreatic, retroperitoneal, gastrohepatic ligament and aortocaval space, findings which have suggested that enlarged lymph nodes as a reflection of inflammation and advanced disease.<sup>10-12</sup> Several studies have failed to demonstrate significant gender differences in the biochemical, immunological and histological features of PBC; however, it has been reported that severe pruritus and systemic symptoms to be more common in females than in males. In contrast, jaundice, gastrointestinal bleeding and development of hepatocellular carcinoma are more common in men.<sup>7,13,14</sup>

Treatment with ursodeoxycholic acid (UDCA) is the only medication approved for the treatment of PBC in the United States and some studies have reported it to delay the progression of the disease. Patient with end stage liver disease and liver failure can undergo liver transplantation. Male patients who are diagnosed with PBC at 60 years and above are less likely to respond to medical therapy and at increased risk to develop hepatocellular carcinoma. Thus, the American Association for the Study of Liver Diseases recommends heightened vigilance for hepatocellular carcinoma in this group of patients.<sup>7,8,13,14</sup> This case highlights the importance of liver disease workup in patients, including men with high serum alkaline

phosphatase activity as it can be mistakenly attributed to bone origin, especially in geriatric population.

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## Conflict of interest

The author declares no conflict of interest.

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