Normal alkaline phosphatase in primary biliary cirrhosis

D A V I D L E S L I E
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Summary
A patient with primary biliary cirrhosis is described. Throughout her illness the serum alkaline phosphatase remained normal and this unique feature emphasizes the importance of histology in diagnosing the disease.

Introduction
Primary biliary cirrhosis (PBC) is associated with a raised serum alkaline phosphatase level (Sherlock and Scheuer, 1973). A patient is described in whom the level of this enzyme remained normal throughout her long illness.

Case report
A Caucasian patient presented in 1963 at the age of 56 years with a transient episode of tiredness and

Fig. 1. Periportal inflammation with granuloma and bile-duct proliferation (HE, × 160).

Fig. 2. Portal inflammation with granuloma and bile-duct proliferation (HE, × 100).
was found to have hepatosplenomegaly which had first been noted in 1958. A liver biopsy showed the pathognomonic features of PBC with bile-duct destruction, proliferation of the bile ducts, granulomatous changes and an inflammatory cell reaction (Scheuer, 1967) (Figs 1 and 2). At that time the total bilirubin was 9 µmol/l, alkaline phosphatase 8 KAu./100 ml (upper normal limit 17 KAu.), alanine aminotransferase 95 u. (normal range, 4–17 u.), aspartate aminotransferase 168 u. (normal range 3–12 u.), IgM 2-8 g/l (normal range 0-3–2-0 g/l), mitochondrial antibodies were present in a titre > 1/1280, positive bile canaliculi antibodies, negative smooth muscle antibodies and negative hepatitis-associated antigen. A wedge biopsy performed at laparotomy confirmed the diagnosis of PBC.

She remained well until 1970 when she developed diabetes mellitus and pancytopenia with a hypercellular bone marrow ascribed to hypersplenism. In 1975 she was admitted with ascites. At that time she was deeply pigmented but anicteric and without pruritus. A repeat liver biopsy showed progression of her PBC to stage 4 cirrhosis (Scheuer, 1967). She responded to diuretics, but in 1976 she was readmitted with a haematemesis and died. Although a barium swallow had shown oesophageal varices, the cause of her haematemesis was not determined and no post-mortem examination was allowed.

Her alkaline phosphatase and 5-nucleotidase levels remained normal throughout her illness. Thus the alkaline phosphatase was 8 KAu. in 1963, 8 in 1967, 14 in 1970, 8 in 1975 and 11 KAu. in 1976. On electrophoresis the alkaline phosphatase was predominantly of hepatic origin with a minor component showing the mobility of the bone isoenzyme.

**Discussion**

This case has several unusual features. Despite evidence of progressive disease she had a prolonged survival without jaundice or pruritus. Zeegen et al., (1969) found that patients can develop PBC and portal hypertension without the classical symptoms of PBC. However, the alkaline phosphatase was raised in every case.

It has been postulated (Schaffner, 1975) that the raised alkaline phosphatase is due to bile regurgitation into the portal tract tissues through damaged ducts. In their review, Sherlock and Scheuer (1973) reported just two patients, both discovered incidentally, who had an initial alkaline phosphatase of less than 20 KAu., but no follow-up was recorded.

The present patient had a persistently normal alkaline phosphatase until her death and is believed to be the first such case reported. This underlines the lack of specificity of biochemical tests and, while histology is often not diagnostic (Scheuer, 1967), it emphasizes its value in diagnosing the disease.

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**References**


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**Gastro-colic fistula secondary to benign gastric ulceration**

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**Summary**

An 80-year-old woman developed osteoarthritis of the knees as a complication of her obesity. Indomethacin treatment precipitated gastric ulceration, which led to the formation of a gastro-colic fistula.

GASTRO-COLIC fistula is a rare condition and, unlike gastro-jejuno-colic fistula which usually occurs secondary to partial gastrectomy, is most often a complication of invasive gastric or colonic carcinoma (Cody et al., 1975). Other possible causes include...