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CASE REPORT

THE TRIAD OF LICHEN PLANUS, THYMOMA AND LIVER CIRRHOSIS-HEPATOMA. FIRST REPORTED CASE

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We describe a patient with liver cirrhosis who presented with erosive oral and cutaneous lichen planus (LP) and incidentally was found simultaneously to have thymoma and hepatoma. We support the notion forwarded earlier that LP and chronic liver disease is more than a mere coincidence and that there is a non-coincidental association between LP and thymoma. We believe this is also the first reported case in the English Literature of coexistence of the three condition LP, thymoma and hepatoma complicating liver disease.

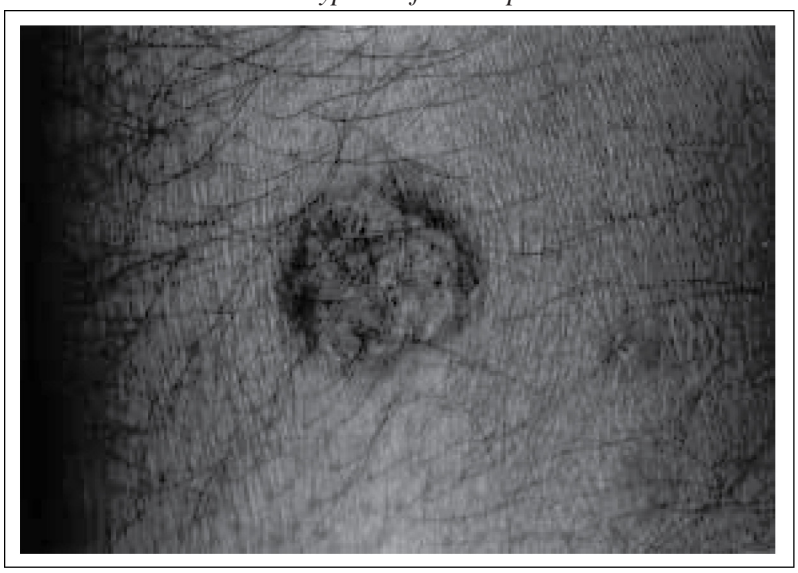
Key words : *Lichen planus, thymoma, chronic liver disease*

Introduction

The relationship between Lichen Planus (LP) and liver disease and LP and thymoma has been reported before (1-7), however a cause and effect relationship is still controversial.

This observation has interested clinicians and stimulated attempts to explain the phenomenon. There is evidence that LP is immune mediated. Immune reactants are found at the basement membrane zone on direct immunofluorescence, the infiltrate are predominantly of helper T cells and

Fig.1 : Intensely pruitic purplich plaque with whitich surface (Wickham's striae) on the anterior aspect of the shin, this lesion is typical of lichen palnus



LP has been observed combined with other autoimmune diseases such as alopecia areata, vitiligo, pemphigoid and systemic lupus erythematosus.

The thymus itself on the other hand plays a key role in the immunologic status of an individual and an association of disorders of the thymus with autoimmune diseases may occur.

Here we present a rare and interesting combination of lichen planus and both the immunologically mediated disease thymoma and liver cirrhosis complicated by a hepatoma.

Case report

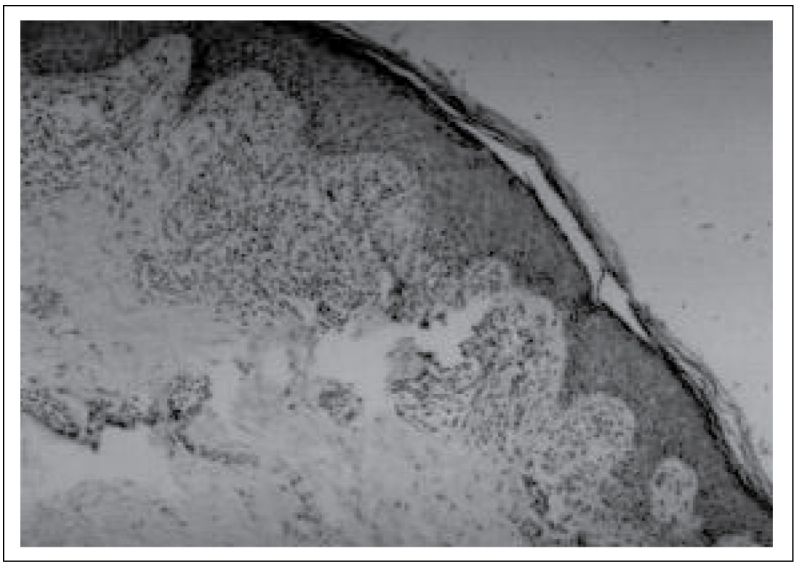
A 59 year old man, retired driver in the army, presented to the outpatient clinic of Universiti Kebangsaan Malaysia on 12th Sept 1994 with complaint of painful oral lesion for one month. This was followed two weeks later by onset of pruritic rash distributed on both upper and lower limbs. Prior to this, he was well and was not known to have any medical illnesses. He denied any loss of weight despite having problems with taking solid food due to oral ulcer.

On examination, there was erosive LP on his buccal mucosa, tongue and lips. There were also multiple discrete, intensely pruritic, purplish papules and plaque on the anterior aspect of his shins (Fig. 1), flexor aspect of his wrists and forearm bilaterally and these lesions were typical of LP. He was noted to be pale and there were palpable deep cervical lymph nodes. He also had hepatomegaly with liver span of 4cm below right costal margin and splenomegaly extending medially 6cm below left costal margin. There was no sign of myasthenia gravis.

Investigations and progress

Full blood picture showed that he has normochromic anemia with low hemoglobin level 11.4 g/dL and his platelet count was 1.52 x 10^5/cubic mm. The level of his serum iron and TIBC were low at 5.5 umol/L and 42 umol/L (normal) respectively. His liver function tests were deranged, his total protein and albumin were low at 54 g/L and 29/L respectively and serum alkaline phosphatase level was raised at 159 U/l. However, his serum alanine amino transferase, serum bilirubin, serum calcium and serum phosphate level were normal. His prothrombin time was prolonged at 16.3 seconds compared to 11.7 seconds (control). Serum creatinine, potassium, sodium and blood urea were all normal. No organism was cultured from the oral mucosa despite repeated attempts. Interestingly, hepatitis B surface antigen tested from his blood was positive and he had repeatedly markedly elevated alpha feto protein level at 3760 ng/ml. Collagen screening was also done, his antinuclear factor was

Fig.2 : Histopathology of the skin lesion (biopsy taken from the forearm) under low power view on H&E stain showed hyperkeratosis, hypergranulosis and acanthosis with irregular elongation of rete ridges forming saw-tooth appearance. The dermis showed band-like dermal infiltrate of mainly lymphocytes



positive (homogenous pattern) but his rheumatoid factor, anti DNA and LE cells were repeatedly negative. His ESR was only 16mm per hr. His chest radiograph showed upper mediastinal widening.

Skin biopsy on his right forearm confirmed the clinical diagnosis of LP. The histology of the skin (Fig. 1) showed hyperkeratosis, hypergranulosis and acanthosis with irregular elongation of rete ridges forming saw-tooth appearance. The dermis showed band-like dermal infiltrate of mainly lymphocytes and there was degeneration of the basal layer with moderate pigmentary incontinence. Colloid bodies in the upper dermis stained strongly for IgM.

Ultrasound of the liver, showed liver cirrhosis, splenomegaly and ascites. Computed tomography (CT) of the thorax (Fig. 3) and abdomen revealed a large solid anterior mediastinal mass 9 X 5 X 14 cm. The great vessels and the arch of the aorta were displaced posteriorly. The diagnosis of thymoma was considered.

CT revealed the liver to be inhomogeneous with multiple hypodense nodules seen in both lobes. The liver outline was lobulated and irregular (see fig 4). In view of the markedly raised alpha-fetoprotein levels and positive test for Hepatitis B surface antigen, a diagnosis of hepatoma with underlying liver cirrhosis and portal hypertension was made.

CT guided fine needle aspiration biopsy of the mediastinal mass was performed. Histological examination confirmed the diagnosis of thymoma. The tumour was cellular. The cells had hyperchromatic oval nuclei with indistinct cytoplasm and stained positively for cytokeratin. These cells forms rosette pattern in many areas stained negatively to neurone specific amylase. In view of the invasive nature of the anterior mediastinal mass, it was diagnosed as a malignant thymoma.

Fine needle aspiration performed at the same time under CT guide confirmed the diagnosis of liver cirrhosis. The hepatic parenchyma was divided into lobules by fibrous tissue septa, which was infiltrated by lymphocytes. There was bile duct proliferation. The hepatocytes showed regeneration with large nuclei and some of them were binucleated. However, no malignant cells were seen.

His erosive oral and skin lesion remained a problem. He succumbed two months later.

Discussions

Our patient has erosive LP, thymoma and liver cirrhosis. Although raised serum alpha-fetoprotein in the presence of Hepatitis B antigenemia could be related to other liver condition such as chronic active hepatitis, cirrhosis and acute hepatitis (8) however it is unlikely in this case because this level is too high. Besides he did not have evidence of acute hepatitis or acute liver failure as suggested by his normal transaminases levels. The other possibility is that his liver nodule could be a macroregenerative nodule. Macroregerative nodules in liver cirrhosis are however not associated with elevated serum alpha-fetoprotein (9). Therefore, although there was

Fig.3 : Caption for the CT images: CT thorax: a large solid tumour (arrowed) in the anterior mediastinum displacing the arch of the aorta (asterisk) posteriorly

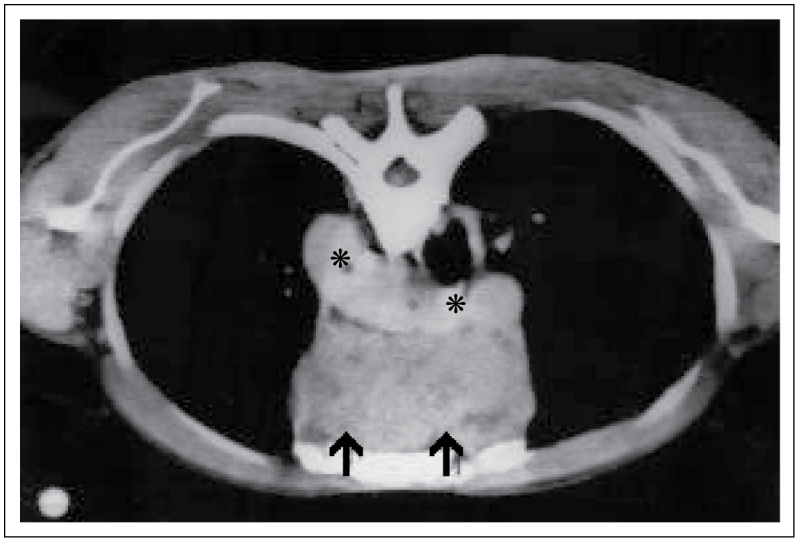
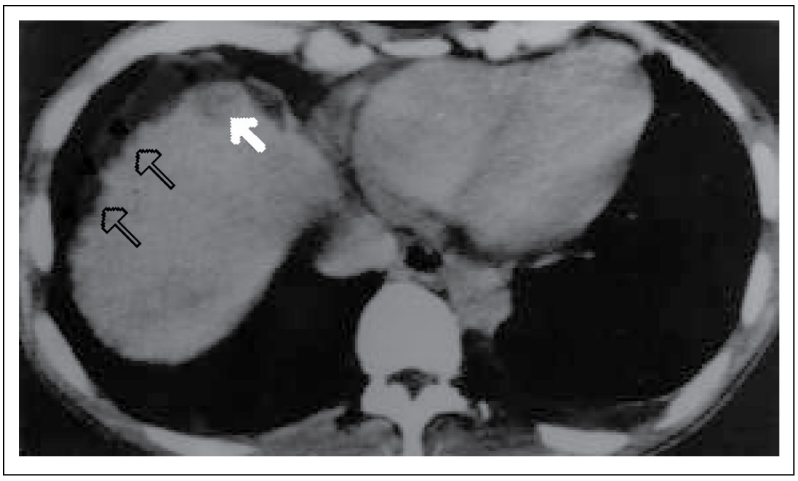


Fig.4 : Caption for the CT images: CT liver: Hypodense nodules in the right lobe (arrowed). The liver outline is irregular (arrowheads)



no histological confirmation of hepatoma, his markedly elevated serum alpha-fetoprotein of greater than 3000ng/ml in the presence of multiple liver nodules leave us in no doubt that he has hepatoma.

We are uncertain of the significance of antinuclear factor in the absence of clinical features of connective tissue disease in our patient, but similar observation of presence of positive antinuclear factor was noted in a patient with LP and thymoma by Ng (2). He also highlighted reports of at least 16 cases of SLE and thymoma. It is most probable that the thymus is the key factor in these deranged autoimmune phenomena

Gibson (3),in his review of cutaneous problem of 172 patients with thymoma found that 2 patients had LP. Tan (4), Aronson (5), Flamenbaum (6) and Mineo (7) reported separately four cases that had thymoma and LP. All these six patients had one striking similarity; they all had erosive painful oral LP, as did our patient. Two had thymoma that preceded LP, two had LP prior to the diagnosis and two had LP at the time of diagnosis of thymoma. To the best of our knowledge, up to date, there have been only two cases of combined hepatocellular carcinoma and LP reported (10). The occurrence of LP, thymoma, liver cirrhosis and hepatoma is exceedingly rare and has never been reported before, and we suggest that there is a probable association between these conditions. LP has been known to be associated with hepatitis B infection and liver cirrhosis (1,11-12). There is no doubt that liver cirrhosis in our patient is the end result of chronic active hepatitis from hepatitis B infection and this association has been addressed before by Rebora (13) who pointed out the remarkably similar histologic and immunologic features between LP and chronic active hepatitis and that the lichenoid infiltrate in the dermis is similar to T lymphocytes infiltration of the portal spaces destroying the normal architecture of the hepatic lobule. Since erosive LP is relatively uncommon, we suggest all patients with erosive lichen planus should be investigated for thymoma and liver disease.

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