ANNALS OF GASTROENTEROLOGY 2006, 19(2):135-137

Case report

Intrahepatic cholestasis associated with giant cell arteritis

D.N. Haritos[1], S.G. Papageorgiou[1], Dimitra Rontogianni[2], A.A. Papadopoulos[1], Eleni I. Boutati[1], Th. Economomoulos[1]

SUMMARY

Giant cell arteritis (GCA) is a vasculitis affecting large and medium size arteries and presents mainly in the elderly.

Major clinical findings in GCA are headache, visual symptoms, fever and jaw claudication. Laboratory findings include a very high erythrocyte sedimentation rate and anemia.

Among other organs that can be affected is the liver. More than 30% of cases exhibit mild elevation of cholestatic enzymes. However, significant elevation of cholestatic enzymes, consistent with primary liver disease is quite rare in GCA

A case of a 73-year-old woman with giant cell arteritis, presenting with clinical and laboratory findings suggestive of a primary liver disease is reported.

This case is presented to warn physicians that GCA should be included in the differential diagnosis of abnormal liver function tests in the elderly population.

Key words: Cholestasis, Giant-cell arteritis, liver dysfunction,

INTRODUCTION

Giant-cell arteritis is a vasculitits affecting large and medium size arteries and mainly presents in the elderly. It is characterized by headache, scalp tenderness, visual disturbances and jaw claudication.[1,2,3]

Liver is among the organs, that can be affected. More than 30% of cases exhibit mild cholestatic enzyme elevation.[4] Liver biopsy is normal in 33% of the patients, while non-specific liver abnormalities or grannulomatus hepatitis are seen in the rest of the population.[5,6] However, significant cholestatic enzyme elevation, to the degree seen in our patient, is quite rare in giant cell arteritis.[7]

This case is presented to increase physician awareness that giant-cell arteritis should be included in the differential diagnosis of abnormal liver function tests in the elderly.

CASE REPORT

A 73-year old woman was admitted to our department with a three month history of malaise and fever of 38˚C, which occurred mainly in the afternoon.

In her past medical history, she reported type 2 diabetes mellitus controlled with diet, arterial hypertension on a beta-blocker and Calcium channel blocker and hypothyroidism on thyroxin supplementation therapy. Six months ago she was admitted to another hospital with symptoms of high-grade fever, rigor and jaundice and was discharged with the diagnosis of acute cholangitis.

Her husband died of liver cirrhosis secondary to chronic hepatitis B.

Physical examination was unremarkable with no hepatomegaly. Both temporal arteries were easily palpable without tenderness. The hemoglobulin was 9.5gr/dl, MCV: 86.2fl, MCH: 27.2pg, while other red cell indices were within normal limits. Erythrocyte sedimen-

[1]2nd Department of Internal Medicine – Propaedeutic, Athens University, "Attikon" University Hospital, Athens, Greece,
[2]Department of Pathology, "Evangelismos" Hospital, Athens, Greece

Author for correspondence:
D. Haritos M.D., Second Department of Internal Medicine – Propaedeutic, University of Athens,
"Attikon" University Hospital, Athens, Greece,
Tel: +0030 210 5831150, Fax: +0030 210 5326454,
e-mail: docpapado@yahoo.gr

tation rate (ESR) was 120mm after 1 hr and C-reactive protein was 126 mg/liter (normal, <5 mg/liter). The amino-transferases were mildly elevated, AST: 156U/L, ALT: 99U/L (normal up to 40 U/L)total bilirubin was normal and cholestatic enzymes were significantly increased with an alkaline phosphatase of 1004 U/L (normal range: 75-275U/L) and a γ-GT 430 U/L (normal range: 8-48U/L). Anti-nuclear, anti-smooth muscle, anti-mitochondrial antibodies and hepatitis serology were negative. Liver ultrasound showed no evidence of intrahepatic or extrahepatic biliary dilatation. Due to the absence of major abnormal clinical and laboratory findings - other than elevated cholestatic enzymes - a primary liver disease was strongly suspected. Magnetic Resonance Cholangio-Pancreatography (MRCP) was normal whereas, needle liver biopsy revealed nodular regenerative hyperaplasia (figure 1). The combination of patient's age, fever, anemia and elevated ESR pointed to the possibility of giant-cell arteritis. The patient underwent temporal artery biopsy, which confirmed the diagnosis (figure 2). The patient was started on prednizone 40mg/day. ESR and C-reactive protein were reduced to 26mm/hr and 20mg/liter respectively and cholestatic enzymes normalized within three days with complete resolution of her symptoms.

DISCUSSION

Giant cell arteritis (GCA), a vasculitis affecting middle aged or elderly subjects, is rare before the age of 50. Most commonly arteries of large to medium size are affected.[1,2]

GCA presents in the majority of cases with headache, visual disturbances, fever, and jaw claudication. Laboratory findings include a very high erythrocyte sedimentation rate and anemia.

In contrast to other vasculitis syndromes that are characterized by a multisystemic presentation, major involvement of specific organs is less commonly observed in GCA. Rarely, lesions of kidney, lung, alimentary tract and skin are reported.[8-10]

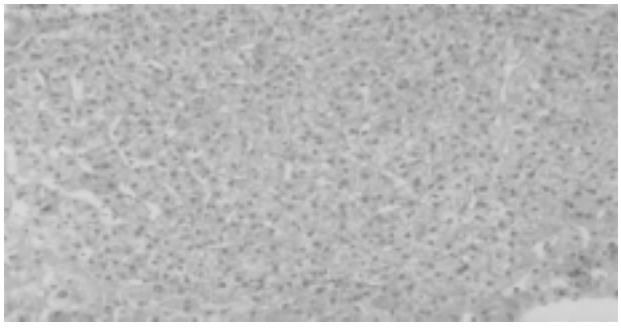

Fig. 1. Liver biopsy, with histological findings compatible with nodular regenerative hyperplasia. (Haematoxylin and eosin) (magnification x100)

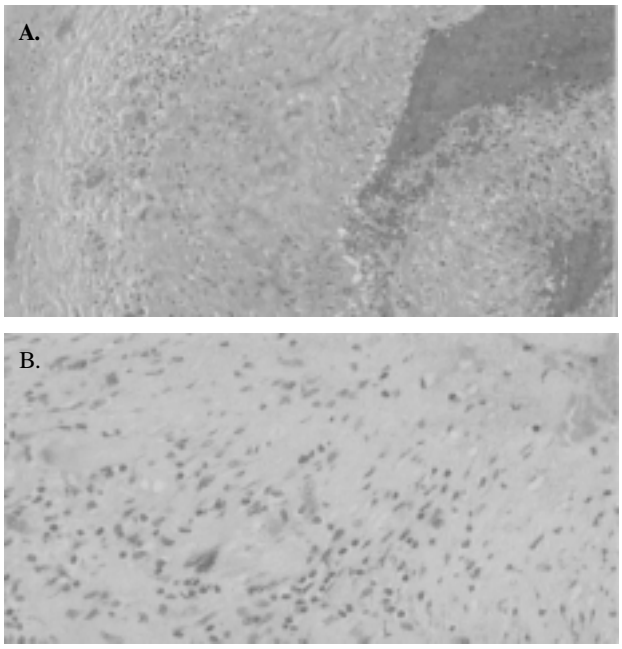

Fig. 2. Giant cell arteritis: Transmular inflammatory infiltration (a) (Haematoxylin and eosin) (magnification x50) with giant cell reaction (b) (Haematoxylin and eosin) (magnification x200)

The liver is the least commonly affected organ in GCA. Usually abnormalities of the liver function tests are observed, while clinical findings, attributable to hepatic involvement are not common.[7,11]

According to previously published work liver involvement in GCA occurs in 20-30% of cases, although Sonnenblick et al. report a rate of 62%.[7,10]

The most commonly observed abnormality of liver biochemistry in GCA is a mild to moderate elevation of cholestatic enzymes, which occurs in 30% of patients. Elevation of serum bilirubin or prolongation of prothrombin time is not seen.[9]

In 15-20% of GCA patients with hepatic involvement a mild elevation of serum aminotransferases is observed, usually not exceeding the value of 100 IU/ml.[11]

Marked elevation of cholestatic enzymes is a very rare finding in GCA.[7] However, in our case the values of gamma-glytamyl transpeptidase (γ-GT) and alkalike phosphatase (ALP) were 10 times and 4 times over the upper normal limits, respectively. Therefore, dysregulation of

hepatic biochemistry was the presenting sign of GCA in our case.

An extensive review of the literature reveals only four other cases, in whom GCA presented with major abnormalities of hepatic enzymes, suggesting a primary liver disease as the first diagnostic option.[7]

A quite limited number of studies report pathologic findings in liver biopsy in GCA. In one third of cases no abnormal findings were observed, while in the remaining cases lymphocytic infiltration, periductal inflammation and a mild necrotizing or granulomatous hepatitis were noted.[5,6,11]

Vasculitis of hepatic arteries of medium size has been proposed as the most possible mechanism in cases where liver abnormalities are encountered in GCA.[12,13]

Liver dysfunction in GCA is usually benign and is reversed soon after corticosteroid treatment is undertaken. No case of subsequent development of chronic hepatitis in GCA has ever been reported in the literature.[7,12]

In conclusion, liver involvement in GCA is quite often observed, manifest with abnormalities of cholestatic enzymes and most often exhibits a benign course. In very rare instances, such as with our patient, it does present with clinical and laboratory findings suggestive of primary liver diseases.

REFERENCES

1. Salvarani C, Cantini G, Bolard L, Hunder GG. Polymyalgia rheumatica and giant-cell arteritis. N Engl J Med 2002; 25: 261-71.
2. Gonzalez-Gay MA. The diagnosis and management of patients with giant cell arteritis. J Rheumatol 2005; 32:1186-1188.
3. Weyand CM, Goronzy JJ. Giant-cell arteritis and polymyalgia rheumatica. Ann Intern Med 2003; 16:505-15BA.
4. Jones J, Kyle MV. Abnormal liver scan in giant cell arteritis. Am Rheum Dis 1984; 43: 583-585.
5. Henegham M, Feeley K, De Faoite N, Little M, O' Gorman T. Granulomatous liver disease and giant-cell arteritis. Dig Disease and Sciences 1998; 43:2164-2167.
6. Dickson ER, Maldonado JE, Sheps SG, Cain JAJr. Systemic giant-cell arteritis with polymyalgia rheumatica: Reversible abnormalities of liver function. JAMA 1973; 224:1496-1498.
7. Ilan Y, Ben-Chetrit E.. Liver involvement in giant-cell arteritis. Clinical Rheumatology 1993; 12:219-222.
8. Larson TS, Stephen H, Hepper NGG. Respiratory tract symptoms as a clue to giant cell arteritis. Ann Intern Med 1984; 101: 594.
9. Martin JR, Kittos C, Triger DR. Giant cell arteritis of coronary arteries causing myocardial infarction. Br Heart J 1980; 43: 487.
10. Sonnenblick M, Nesher G, Rosin A. Nonclassical organ involvement in temporal arteritis. Semin Arthritis Rheum 1989; 19:183-190
11. Knurring JR, Wasetjern C. Liver involvement in polynalgic rheumatism. Scon J Rheumatol 1976; 5:197-204.
12. Chuang TY, Hunder GG, Ilstrup DM, Jurland LT. Polymyalgia rheumatica. A 10-year epidemiologic and clinical study. Ann Inter Med 1982; 97: 672.
13. Long R, James O. Polymyalgia rheumatica and liver disease. Lancet 1974; 1: 77.