CASE REPORTS

SPONTANEOUS PERIRENAL HEMORRHAGE DUE TO RUPTURE OF MICROANEURYSMS IN POLYARTERITIS NODOSA

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SUMMARY : *We present a case of bilateral peroneal paralysis and spontaneous perinephric hemorrhage due to ruptured microaneurysm. HbsAg was positive. Polyarteritis nodosa was diagnosed by radiological and histopathological findings. Polyarteritis nodosa associated with positive HbsAg is known to have a higher incidence of microaneurysms. Rupture of these microaneurysms should be treated conservatively or surgically.*

Key Wods : *PAN, Microaneurysm, Hemorrhage.*

INTRODUCTION

Polyarteritis nodosa (PAN) is a well known, but unusual disease. It is characterized by focal inflammatory lesions that predominantly involve medium and small arteries. The kidneys are involved in about 72-79% of the cases (1). PAN frequently occurs between the fourth and sixth decades of life. Multiple small aneurysms in the medium-sized arteries particularly at the bifurcations would seem to be definitive findings in this disease. The incidence of such microaneurysms in PAN has been found to be 47-60%. It has been reported that PAN associated with positive HbsAg has a higher incidence of microaneurysms (2). The rupture of these lesions may cause intrarenal, subcapsular, perirenal or retroperitoneal hemorrhage and usually necessitates emergency operation. This complication may be the initial manifestation of the disorder (3). Spontaneous perirenal hematoma owing to PAN is a rare condition (4,5,6). We describe a case with perirenal hematoma secondary to polyarteritis nodosa.

CASE REPORT

A 42-year-old man was admitted because of myalgia, artralgia and fever. On physical examination, blood pressure was 170/110 mmHg and there was pallor. Two days after hospitalization, bilateral peroneal paralysis occurred. His blood pressure was controlled by calcium channel blockers. All of the microbiologic tests were negative. The laboratory findings were as follows at admission; Hb 10.5 g/dl, white blood cell count 13000/µl, platelet count 327000/µl, ESR 125 mm/h; prothrombin time and activated partial thromboplastin time

were normal; BUN 14 mg/dl, creatinine 1mg/dl, AST 170IU/ml, ALT 313IU/ml, GGT 155IU/ml, albumin 3.3g/dl, calcium 9mg/dl; serum electrolytes were within normal limits. Urinalysis showed 8-9 red blood cells and 1-2 white blood cells per high power field. The daily urinary protein excretion was 406.8 mg and creatinine clearance was 80 ml/min. ANA, anti-dsDNA, and p-ANCA were negative.

Hepatitis B viral markers were as follows: HbsAg (+), anti-HBs (-), anti-HbcIgM (+), HBV-DNA (+). Twenty days later, severe left upper abdominal quadrant pain developed. Hemoglobin level decreased from 10.5 g/dl to 5.5g/dl rapidly. Emergency ultrasound and computed tomography of the abdomen demonstrated a 13x14 cm fluid collection compatible with hemorrhage in the left perinephric space (Fig. 1). Hypotension and low

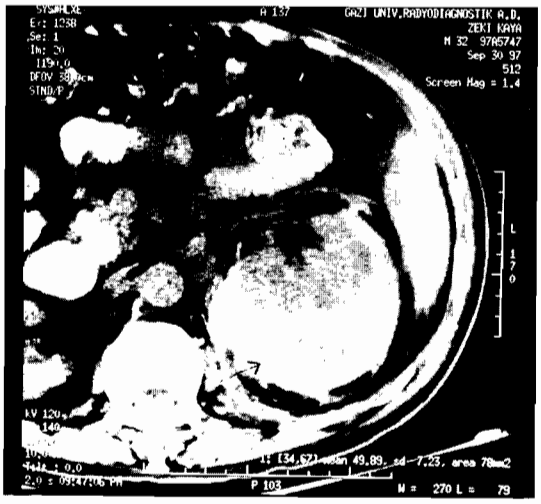

Fig. 1: Abdominal CT shows perirenal hemorrhage in left perinephric space

levels of hematocrite were corrected by fluid and blood replacement therapy in two days. During this period, BUN increased to 36mg/dl and creatinine to 2.6 mg/dl. Bilateral selective renal angiography could be performed five days later. Angiogram revealed multiple small microaneurysms arising from the interlobular renal arteries (Fig. 2-3). A muscle and nerve biopsy was performed. The result of this biopsy revealed vasculitic changes. Mononeuritis multiplex was demonstrated by EMG. On the basis of this information, PAN was diagnosed. First, 1 g/day metil prednisolone for five days was given intravenously, and then 1 mg/kg/day

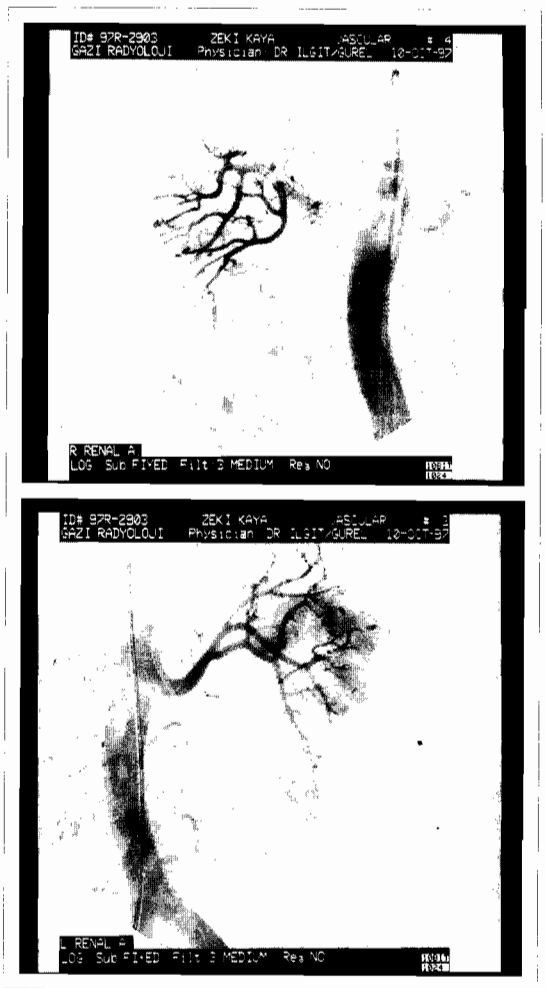

Fig. 2-3: Right and left renal arteriograms demonstrate multiple microaneurysms arising from interlobular arteries.

cyclophosphamide therapy was started orally. Prednisolone therapy was tapered slowly. At follow-up 4 months later, the patient is still continuing steroid and cyclophosphamide therapy and his renal functions have not improved yet.

DISCUSSION

Spontaneous perirenal hematoma as a complication of PAN was first described in 1908 by Schmidt (4). Other authors have also reported some cases until now (1,4,5,6,7,8,9). Generally, rupture of microaneurysms requires emergency operation. But, it has been also demonstrated that selective embolization of small arteries may be considered as a potent and good alternative approach to surgery (3,9,10). In our case, renal

arteriography couldn't be done during active hemorrhage, but we believe that the spontaneous perirenal hematoma was caused by the rupture of such an aneursym, which was demonstrated in renal angiography. In this case, all attempts were made to conserve renal tissue, and perirenal bleeding related to rupture of microaneurysm resolved spontaneously. No intervention was needed, and the bleeding stopped with conservative treatment. In the literature, it has been suggested that all attempts should be made to avoid nephrectomy and to conserve renal tissue (6). For this reason, if the patient can be stabilized medically during the acute phase of spontaneous perinephric hemorrhage, we recommend deferring radical nephrectomy. The incidence of microaneurysms in PAN has been documented in several series and found to be 47-60%. On the other hand, it has been suggested that PAN associated with HbsAg positivity has a higher incidence of microaneurysms.

Microaneurysms tend to occur mainly in severe form of PAN and are associated with poor prognosis (2). In addition, Öksüzoğlu et al. pointed out that perirenal hematoma may be a more common complication of PAN in Turkey (9/60;15% of reported cases), speculating that higher hepatitis B carrier rate or higher prevalence of some other viral infections eg. viruses of the parvoviridae family may be potential explanation (8). However, Bihorac et al. also directed attention to another important association: the concurrent presence of familial mediterranean fever (FMF) in Turkey. A total of 23 cases of FMF with PAN have been reported: 11 from Turkey, 5 from Israel and 7 from other European countries (7). In the literature, it has been demonstrated that PAN may occur more commonly in patients with FMF than would be expected in the general population (7,11). The pathogenetic relationship of PAN and FMF is not clear.

In conclusion, a case of spontaneous perirenal hemorrhage associated with PAN and HbsAg positivity is described. Generally, rupture of such microaneurysms requires emergency operation. Initially, conservative therapy should be tried to avoid nephrectomy and to conserve renal tissue.

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