

FEMORAL AND OBTURATOR NEUROPATHY SECONDARY TO RETROPERITONEAL HEMORRHAGE: THE VALUE OF THE CT SCAN

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(Received 23 September 1980; received for publication 20 November 1980)

Abstract—A man developed signs of femoral and obturator neuropathy due to spontaneous retroperitoneal hemorrhage while taking anticoagulant drugs for suspected thrombophlebitis. The hemorrhage was demonstrated by CT scan. CT scans should be used in all patients developing signs of peripheral nerve entrapment during anticoagulant therapy.

Neuropathy Retroperitoneal hemorrhage Computed tomography

INTRODUCTION

The neurologic complications of anticoagulation are well known and can affect any level of the neuraxis. Reports on the syndrome of retroperitoneal hemorrhage producing peripheral nerve entrapment demonstrated by CT scan are meager (1–4). We wish to add another report and stress the value of the CT scan in the diagnosis of this dangerous complication of anticoagulant therapy.

CASE REPORT

Three-and-one-half weeks prior to admission, an 80 yr old man stumbled and sprained his left big toe. Two days later, painful swelling developed in the left calf muscles, diagnosed as "phlebitis" by a local physician. Intravenous heparin, 1000 U hr, was given for eight days followed by Warfarin 5 mg/day with good recovery. The day prior to admission, while walking, the patient felt pain and fatigue in the muscles of the right thigh. The following day he awoke, unable to use the right lower extremity. He denied back pain, sphincter disturbances, or any symptoms in the left lower extremity.

The past history includes "myocardial infarction" in 1936, prostate surgery in 1975, left lumbar disc disease treated conservatively in 1976, and pancreatitis several years ago. There was no family history of bleeding disorders.

The vital signs on admission were: blood pressure 170/80, pulse rate 80/min and regular, and oral temperature 38°C. He was obese, plethoric, but in no acute distress. Abnormal findings in the general physical examination were: large ecchymoses in the right flank and anteromedial aspect of the thigh with tenderness in the inguinal region, brownish discoloration of the skin over the tibia, a mild pitting edema in both legs and ankles, and scattered wheezes in both lung fields. Abnormal neurological findings were confined to the right thigh; circumscribed sensory loss to pin prick and touch over the anteromedial aspect, absent patellar reflex, and severe weakness of the quadriceps, adductor, and iliopsoas muscles. Dysesthesia was elicited over the medial aspect of the right leg.

Abnormal laboratory findings on admission were: partial thromboplastin time (PTT) 73.5 sec (control 29.5 sec), prothrombin time 18.0 sec (control 12 sec), red cell count 3.0 M/cu.mm, hemoglobin 8.9 gm%, and hematocrit 27.5%. The electrocardiogram showed ST-T wave abnormalities. The chest and supine films of the abdomen were unremarkable except for aortic calcification.

An admitting diagnosis of retroperitoneal hemorrhage with femoral and obturator neuropathy was made. Following two doses of 10 mg intramuscular Vitamin K, the PTT returned to control values, gradually, in 5 days. He received two units of blood because of falling hematocrit and hemoglobin. A CT scan done on the third hospital day showed a nonenhancing retroperitoneal mass lesion on the right, extending from just below the renal fascia to the level of the fifth lumbar



Fig. 1A.



Fig. 1B.



Fig. 1C.

Fig. 1. CT scan at different levels A. L5 Vertebra—the hematoma is outlined by small closed arrowheads. The right psoas muscle is distorted compared to the left (large open arrowhead). Small open arrowheads are the approximate location of the grooves for the femoral (lateral) and obturator (medial) nerves, B. Upper Sacral—the outline of the right iliopsoas muscle is enlarged by the hematoma, C. Lower Sacral—lateral to the hematoma (closed small arrowheads) on the right is the iliacus muscle (large closed arrowhead).

vertebral body and downward to the iliac and psoas fascia (Fig. 1). An intravenous pyelogram done on the fifth hospital day was unremarkable except that the right psoas muscle shadow was less discernible than on the left. An electromyogram (EMG) revealed absent motor unit activity in the quadriceps femoris and adductor muscles of the right thigh. The other muscles were normal. Supra-maximal stimulation of the right femoral nerve above and below the inguinal ligament showed no evoked muscle action potential recorded in the vastus medialis muscle. A repeat EMG 16 days later revealed occasional fibrillation potentials in the muscles supplied by the femoral and obturator nerves. The other muscles remained normal.

In view of the absence of signs of myelopathy and absence of perithecal abnormality in the CT scan, myelography was not performed. The patient was able to ambulate with a walker 1 month after discharge.

DISCUSSION

The syndrome of peripheral nerve entrapment resulting from retroperitoneal hemorrhage induced by anticoagulation has been the subject of a recent extensive review (5). Since the previous cases were studied prior to the advent of the CT scan, direct visualization of the retroperitoneal hemorrhage was not possible. The diagnosis, therefore, has relied upon the history, clinical and laboratory findings, and radiologic procedures such as intravenous pyelogram, angiogram and barium enema. Although all these are sufficient in the diagnosis and management of retroperitoneal hemorrhage, the CT scan provides prompt and definite diagnosis and also provides opportunity to visualize other types of abnormal or pelvic pathology noninvasively and with only minimum discomfort to the patient.

Treatment of retroperitoneal hemorrhage secondary to anticoagulant therapy requires discontinuation of the anticoagulant and prompt administration of Vitamin K or Protamine. Blood trans-

fusion is given to replace blood loss. Surgical evacuation and drainage of the hematoma has provided prompt relief of symptoms in some patients (2,6). Our patient was treated conservatively because of his advanced age. Prognosis for recovery of peripheral nerve function has been favorable, ranging from partial to complete recovery of function, in those treated conservatively (5).

SUMMARY

An 80 yr old man developed retroperitoneal hemorrhage and signs of femoral and obturator neuropathy during anticoagulant therapy for a suspected thrombophlebitis. A nonenhancing retroperitoneal mass representing the hemorrhage was demonstrated by CT scan. Prompt recognition and treatment of this complication are essential for recovery of neurological function. CT scans provides prompt and safe means of confirming the diagnosis of retroperitoneal hemorrhage.

Acknowledgements—Appreciation is extended to Ms Cathy Nicholson and Ms Bev Myers for their assistance in the preparation of this manuscript.

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