Abdominal Aortic Thrombosis in the Emergency Department. a case report

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Abstract

The complete obstruction of a large artery, including the aorta, is a serious event which, as a general rule, has devastating effects. Sometimes symptoms may be ambiguous and the diagnosis may not be immediate. Prompt recognition of this condition provides the only hope of survival from this rare and catastrophic disease. A 52-year-old man was well until an episode of sudden low back pain and paresis of the legs resulted in admission to the Emergency Department (ED). The entire process of management, from admission to ED until the end of surgical operation, took about 4 hours. After 4 days the patient was discharged, in good clinical conditions. This case report highlights the importance of rapid management of this rare clinical condition for optimal outcome. Early diagnosis is essential for effective treatment.

Keywords: Acute Thrombosis; Abdominal Aorta; Treatment; Emergency Department

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Introduction

The complete obstruction of a large artery is a serious event which, as a general rule, has devastating effects. In past eras of Medicine, one would be correct in assuming that blockage of the largest artery of the body, the aorta, usually results in death [1]. Today, acute aortic occlusion by a thrombus is still an uncommon vascular emergency, which may lead to shock and death [2]. Sometimes symptoms may be ambiguous and the diagnosis may not be immediate. Prompt recognition of this condition provides the only hope of survival from this rare and catastrophic disease.

Case Report

A 52-year-old man was well until his admission to the Emergency Department (ED), when he experienced sudden low back pain and paresis of the legs. There was no medical history of claudication, clotting disorders, or known atherosclerotic disease. On physical examination, the Blood Pressure (BP) was 180/130 mmHg and the pulse rate (PR) was 130, SpO2 was 100%. The skin was mottled in the abdomen while his lower extremities were pale and cold. Femoral pulses could not be evaluated bilaterally, and the patient was in a state of agitation. We inserted a peripheral venous catheter, and the patient was monitored. Electrocardiography (ECG) (Fig. 1.) revealed a supraventricular arhythmia, with overload of the left ventricle. Arterial blood gas showed nothing relevant; blood analysis was requested, and an emergency ultrasound evaluation showed no fluid in the abdomen; the abdominal aorta was not visible, due to artifacts. Intravenous Paracetamol 1000 mg was administered as a first treatment of pain. After few minutes, the patient experienced profuse sweating, increase of pain, heart rate and blood pressure. We administered Morphine 5 mg intravenously, without any improvement of pain. At the same time, Computerized Tomography (CT) was requested, and the Surgical Department was contacted.

The patient was transferred to the Intensive Care Unit, with the tentative diagnosis of acute abdominal aortic disease. BP was increased to 230/134 mm Hg, and PR to 249; Urapidil 50 mg and Verapamil 5 mg, and Morphine 10 mg intravenously were administered resulting in a

subsequent decrease of BP to 145/85; PR moved from the previous value to 122 and pain lessened.

CT (Fig. 2., 3.) showed a huge, lumen-occluding thrombus extending from the infrarenal aorta to the level of the aorto-iliac bifurcation and the iliac arteries; multiple sites of collateral circulation in the femoral artery were detected.

The patient was transferred to the surgery room for a Fogarty Arterial Embolectomy procedure, with recovery of normal blood vascularization.

The entire process of management, from admission to ED, at 17:15, until the end of the surgical operation, at 21:00 took about 4 hours. After 4 days the patient was discharged, in good clinical condition.

Discussion

To the best of our knowledge only few cases of idiopathic abdominal aortic thrombosis have been reported in the scientific literature [3]. Aortic thrombosis is an uncommon event, due to high blood flow rates in the aorta, and its clinical outcome is related to timely intervention. Multidisciplinary intervention is necessary in order to obtain an optimal outcome. The presence of collateral circulation in the femoral arteries had probably prevented chronic and acute pain symptomatology in the lower limbs. Hypercoagulation of blood and anti-phospholipid antibody syndrome usually result in thrombosis in the venous circulation [4] but there is no evidence of coagulation pathology in this patient. Generally this kind of patient develops weakness of the lower limbs, progressing to paraplegia, presumably due to deficient blood supply to the lumbar cord [1]; in this case, timely management and treatment avoided this complication. Physical examination must lead to a timely and appropriate diagnosis, therefore clinicians must have a high index of suspicion in patients who present with painful paresis or paraplegia [5] and the examination of peripheral pulses in these patients is mandatory [6]. Initial diagnostic tests typically include Doppler Ultrasound and CT-angiography, proved to be important in determining renal and visceral artery involvement. Surgical thrombectomy was used for treatment of an acute aortic occlusion; this operation is suitable not just in this case but has also been used for other types of occlusion [7].

Conclusions

This case report highlights the importance of a rapid management of this rare clinical condition, to obtain a better outcome. Early diagnosis is essential to treat such patients.

Resumo

La kompleta okluzio de granda arterio kiel ekzemple la aorto, estas grava okazaĵo, kiu ĉiam havas detruajn efikojn. Kelkfoje la simptomoj estas ambiguaj kaj la diagnozo eventuale ne tuj estas trafa. Tuja ekkono ekigas la nuran esperon je transvivo de tiu rara kaj katastrofa malsano. 52 jaraĝa viro fartis bone ĝis li devis veni al la urĝa akceptejo ĉar li suferis de subita doloro de la malsupra dorso kaj parezo de la gamboj. La kompleta proceduro de kuracado ekde la eniro en la urĝan akceptejon ĝis la fino de la operacio daŭris 4 horojn. Post 4 tagoj la malsanulo estis eksigita el la hospitalo en bona stato. Tiu ĉi kazraporto substrekas la gravecon de rapida kuracado de tiu rara klinika malsano por atingi pli bonan rezulton. Frua diagnozo estas esenca por efika kuracado.

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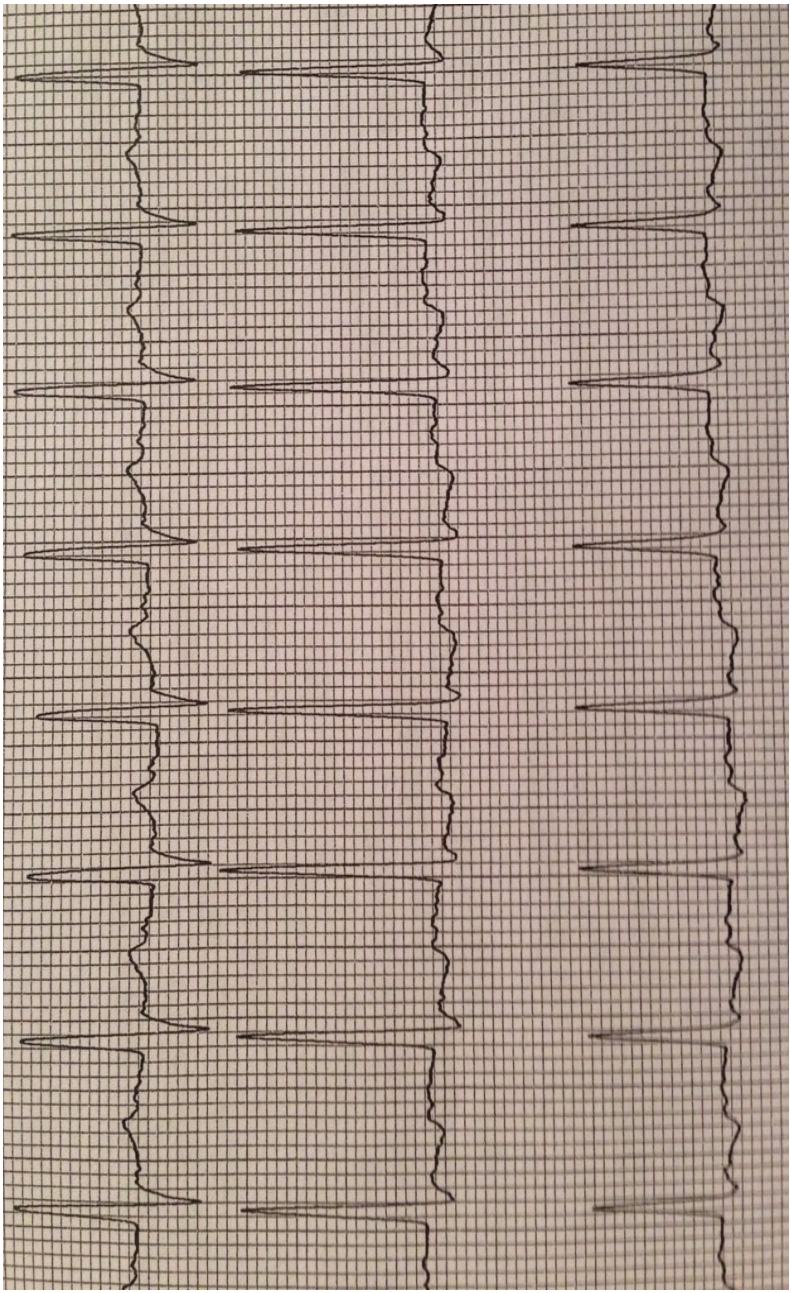

Fig. 1. Supraventricular arrhythmia, with an overload on left ventricle

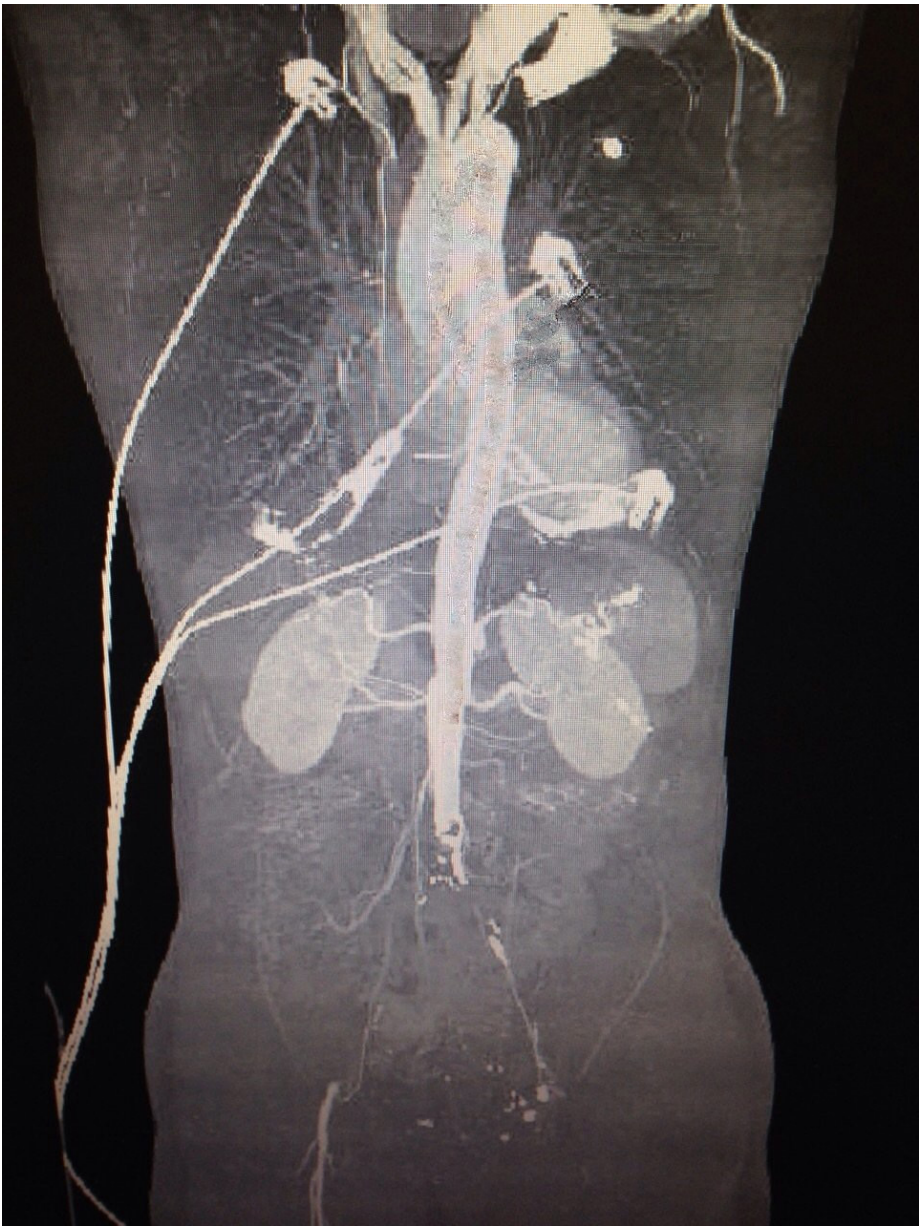

Fig. 2. Lumen-occluding thrombus extending from the infra-renal aorta to the level of the aorto-iliac bifurcation and the iliac arteries

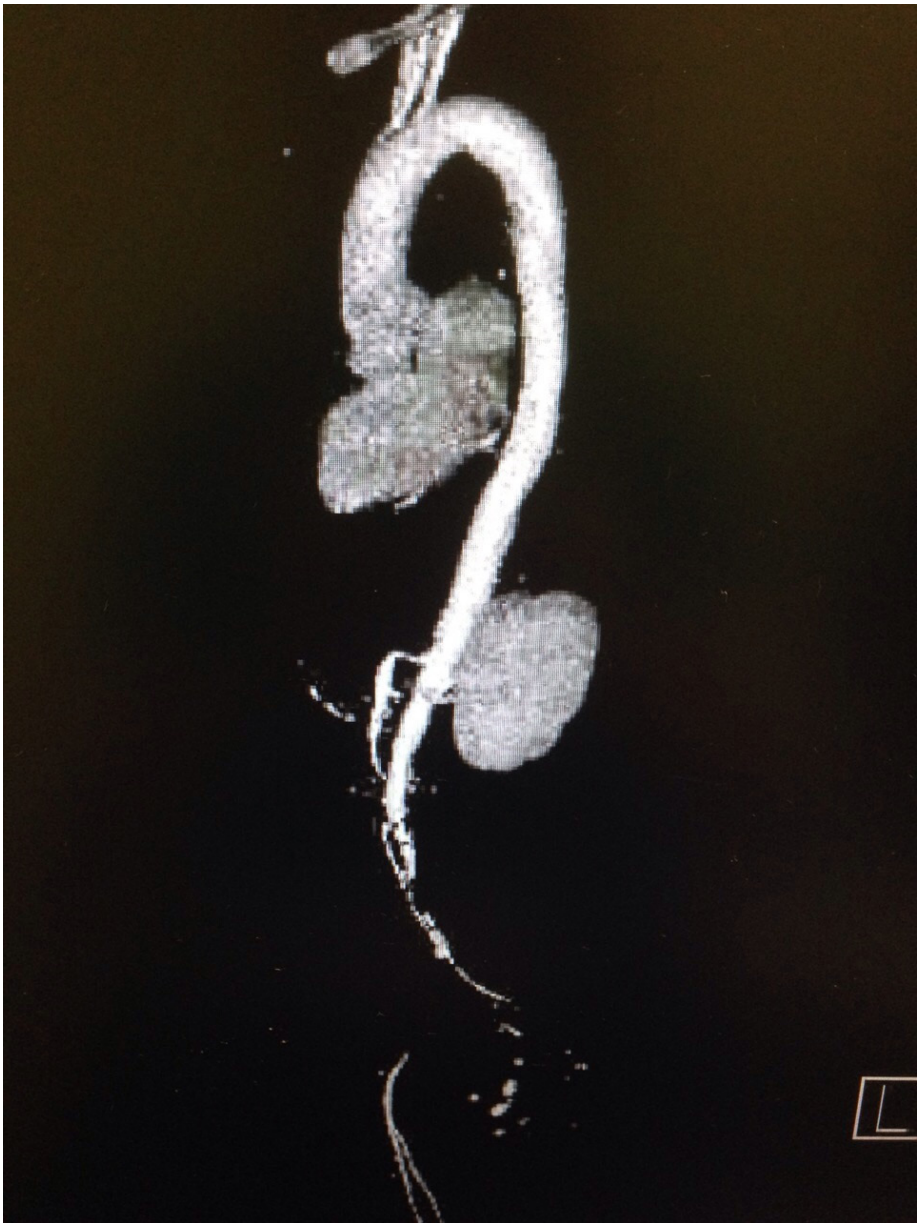

Fig. 3. Multiple sites of collateral circulation in the femoral artery