

A Patient with Severe Back Pain

Abdul Rehman¹, Noor Ul-Ain Baloch¹, Muhammad Awais²

¹Teaching Associate, Department of Biological & Biomedical Sciences, Aga Khan University, Karachi, Pakistan

²Resident, Department of Radiology, Aga Khan University Hospital, Karachi Pakistan

A 55-year-old man presented to the emergency room (ER) with a one-day history of severe backache. This pain started all of a sudden, gradually worsened over a few hours and became severe (7/10) in intensity. The pain was of a stabbing character, localized to the lower back, not radiating anywhere and did not change with a change in posture. There was no history of hypertension, diabetes mellitus or any other comorbid conditions. Family history was notable for hypertension and ischemic heart disease. Patient was not taking any drugs and did not have any addictions. The patient's vital signs were initially recorded by the triage nurse and were unremarkable except for an elevated blood pressure (150/90 mm Hg). As the patient was stable and all available beds were occupied, he was advised by the triage nurse to wait until other patients had been managed. However, due to the long predicted waiting, the patient left without any further evaluation.

Several hours later, the patient returned to the ER in excruciating back pain and in nearly exsanguinated state. At that time, he was taken directly to the resuscitation room and was evaluated by an emergency physician. On examination, he was noted to be tachycardiac (124 beats/min), hypotensive (88/54 mm Hg), diaphoretic and pale. Abdominal examination revealed prominent aortic pulsations, although no

definitive mass could be appreciated. No radio-radial or radio-femoral delays were noted. Considering a possible diagnosis of a ruptured thoracic aortic aneurysm, a portable chest X-ray was obtained, which revealed a widened mediastinum, enlarged aortic knuckle and a left-sided pleural effusion (Figure 1). A computed tomography (CT) scan of the chest with intravenous contrast was performed, which revealed a saccular dilatation (aneurysm) of the descending aorta along with pooling of blood in the left hemithorax (Figure 2).

In view of the findings noted on the CT scan, cardiothoracic and vascular surgery teams were consulted. The patient's family was counseled regarding the patient's condition and the need for surgery. Informed consent was obtained and the patient was rushed to the operating room for aortic aneurysm repair. Intra-operatively, the patient required multiple transfusions and gradually developed worsening metabolic acidosis, hypothermia and coagulopathy.

Eventually, the patient died on the operating table due to excessive blood loss.

This case reinforces the importance of evaluating all patients with back pain thoroughly. Retroperitoneal structures can give rise to backache and a leaking aortic aneurysm is a classic example [1]. Presence of excruciating back pain in any patient, in the absence of any

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Correspondence to: Dr Abdul Rehman

Address: Department of Biological & Biomedical Sciences, Aga Khan University, Karachi, Pakistan

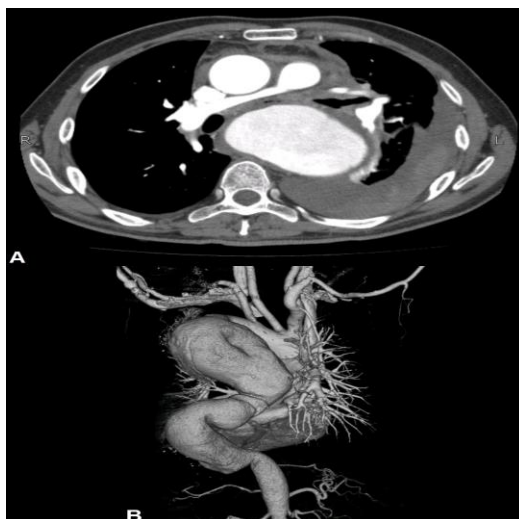
E-mail: jsmawais@yahoo.com

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Figure 1: Chest X-ray of patient



Figure 2: Chest CT scan of patient



local findings on spine examination, should raise the suspicion of aortic aneurysm as a possible diagnosis. Other red flag signs include age >50 years, presence of hypertension, family history of aortic aneurysm and a history of smoking [2]. Evidence has shown that early diagnosis of aortic aneurysms can reduce the mortality rate and change the outlook for these patients [3]. Surgery is recommended for all patients who are found to have rapidly growing (>1 cm/year) or large (>5.5 cm) aortic aneurysms. Other patients can be managed with serial imaging at 3-monthly intervals for 1 year and annually thereafter [4]. All men aged 65-75 years, who have ever smoked, should be screened for aortic aneurysms by performing ultrasonography of the abdomen. This strategy of screening for abdominal aortic aneurysms can reduce mortality from aortic aneurysms and has also been found to be cost-effective [5]. Implementation of effective screening protocols for aortic aneurysms at the population level can help reduce the incidence of and mortality from ruptured aortic aneurysms.

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