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Unusual diagnostic discrepancy leading to a significant delay in management of aortic dissection: Case report

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Introduction: Aortic dissection is uncommon with high mortality rate if untreated. Around one third of patients ultimately diagnosed with acute aortic dissection are first thought to have another diagnosis. We report a very challenging case of long segment aortic dissection in which the dissection type was very difficult to identify due to limitations of the available imaging studies.

Case presentation: A 66-year-old male presented to us with 3 days history of chest pain and difficulty breathing. He is known to be hypertensive. In the emergency room, patient has systolic blood pressure >190. Chest X-ray showed widening of mediastinum. CT angiography of chest and abdomen showed an acute dissection of the thoracic aorta extending from the mid ascending aorta to the infra-renal aorta suggestive of Stanford type A aortic dissection. Transthoracic echocardiography revealed a calcified intimal flap just beyond the distal arch. Moreover, large partially calcified intimal flap was present in the abdominal aorta with no proximal clear cut extension. Normal ejection fraction was reported with dilated aortic root, dilated aortic arch, and large pericardial effusion with no evidence of cardiac tamponade. Trans-esophageal echocardiography was done later, and it revealed a partially calcified intimal flap in the distal portion of the arch and in the descending thoracic aorta in concordance with the trans-thoracic echocardiogram findings and no abnormalities were reported in the ascending aorta. These findings were significantly consistent with Stanford type B aortic dissection. Due to the discrepancy of these tests, imaging studies were reviewed, and repeated CT chest with contrast was obtained and surprisingly confirmed that he had Stanford type B aortic dissection, with the dissection starting distal to the left subclavian artery and intact ascending aorta. Medical treatment started, and repeated CT angiography was obtained and it confirmed type B aortic dissection. One week after discharge, patient was readmitted with severe neck pain and difficulty breathing. CT chest without contrast showed grossly stable appearance of type A dissection consistent with the first CT angiography. Cardiothoracic surgery immediately reevaluated the situation and recommended surgical intervention.

Discussion: Aortic dissection is readily diagnosed using CT scanning. Conventional CT scanners without spiral acquisition have less satisfactory results. In CT with contrast, the intimal flap is seen in less than 75% of cases and the site of entry is rarely identified. These side effects may lead to serious delay in the diagnosis of the correct type of dissection leading to significant delay in management, and our patient was a fair example of these drawbacks. In conclusion, we believe that Spiral/ multi-slice CT can improve the accuracy of diagnosis substantially.

Biography

Abdalla Hassan is an Internal Medicine first year resident at Advocate Illinois Masonic Medical Center, Chicago, IL. He graduated and earned his medical degree from the University of Khartoum, Faculty of Medicine, Sudan in 2012 with the highest degree of honor at the top of his class. He was awarded with more than nine national and international prizes and awards (in Microbiology, Pathology, Forensic Pathology, Community medicine, Internal Medicine, and Psychiatry) during his medical school. He has the privilege of being an author in multiple ongoing papers, abstracts and case reports, as well as a presenter in many national conferences. He pursued Internal medicine because it fulfills his passion about helping people and solving multi-systemic complex problems that are very intellectually stimulating, and he is hoping to pursue a career in cardiovascular diseases.

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