

## Case Report

### *Unusual Presentation of Acute Type A Aortic Dissection in Acute Renal Failure*

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#### ABSTRACT

Aortic dissection may present in different forms of unusual signs and symptoms other than chest pain. Many patients come to the emergency department for other reasons, and they are finally diagnosed with aortic dissection. Herein, we describe a patient with kidney transplantation who initially presented with acute renal failure and eventually received a diagnosis of aortic dissection. (*Iranian Heart Journal 2021; 22(2): 110-114*)

**KEYWORDS:** Aortic dissection, kidney transplantation, acute renal failure

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**H**ead and neck pain is an unusual manifestation of type A aortic dissection. We herein describe a patient with transplanted kidney and neck pain associated with elevated creatinine who was ultimately diagnosed with aortic dissection.

#### CASE PRESENTATION

A 44-year-old man with a history of kidney transplantation was admitted to our hospital with a diagnosis of acute kidney rejection (creatinine rising from 1.5 mg/dL to 3.5 mg/dL). The patient complained of 1 syncope episode and atypical chest pain 3 days earlier; however, at the time of admission, he had no complaints and exhibited nonspecific changes in electrocardiography (Fig. 1).

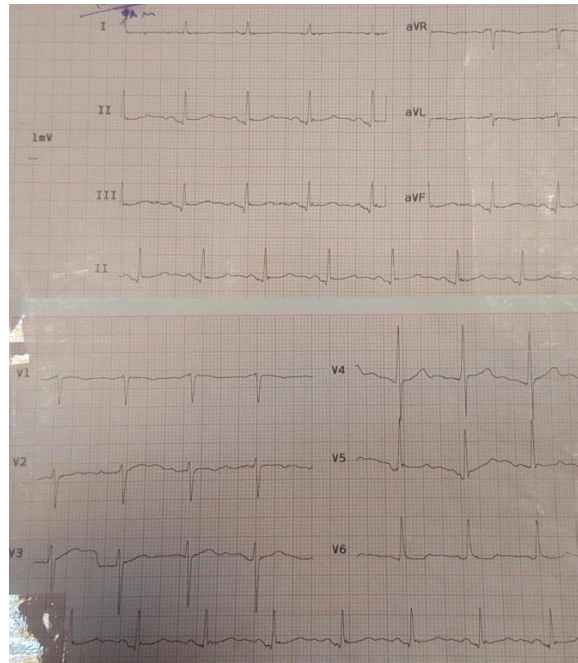
Three days later, he was consulted by our cardiologist due to symptoms of neck pain and pallor. Doppler sonography was

performed to rule out acute coronary syndromes or vascular problems; the results revealed abnormal cervical vessels. The right-hand pulse was not palpable, and blood pressure in the 2 hands was not equal. The results of new electrocardiography and vascular Doppler sonography are shown in Figure 2 and Figure 3.

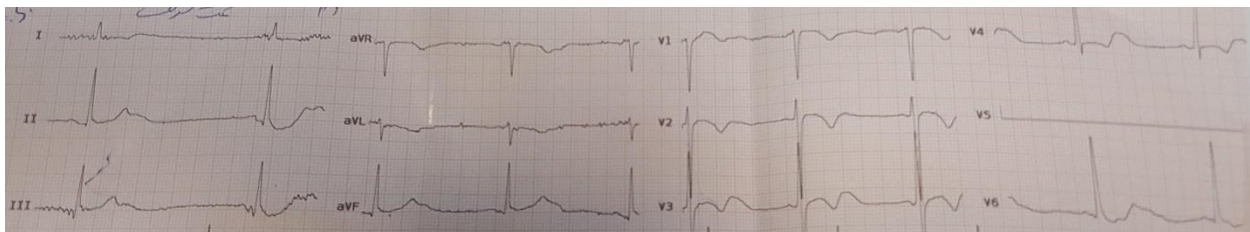
Transthoracic echocardiography revealed a normal ventricular function with no pericardial effusion. The aortic valve was bicuspid with no stenosis or insufficiency, but the ascending aorta and the aortic arch were dilated, raising the suspicion of a dissection flap with extension to the carotid artery. The patient's renal failure precluded computed tomography angiography. Transesophageal echocardiography was performed, and it showed a dissection flap (Fig. 4, 5, & 6) that originated from the

sinotubular junction and extended to the aortic arch and the proximal portion of the

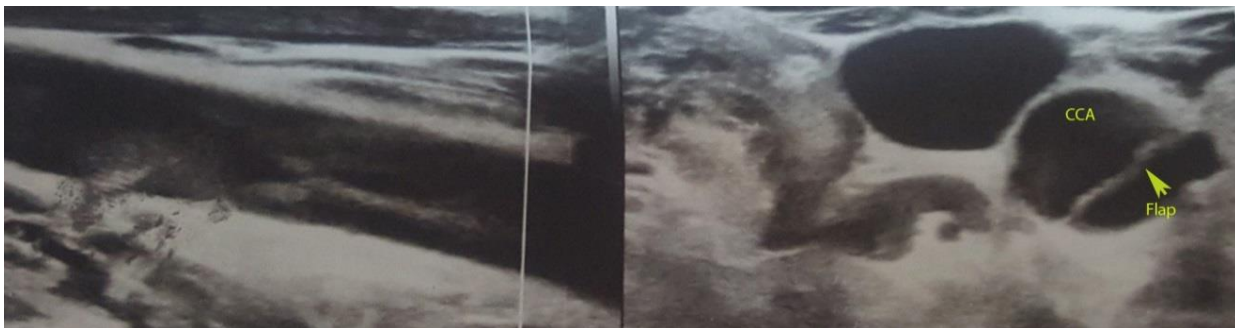
right common carotid artery. The patient underwent successful surgery.



**Figure 1:** The image illustrates the first electrocardiogram at the time of admission.



**Figure 2:** The image illustrates the electrocardiogram during neck pain.

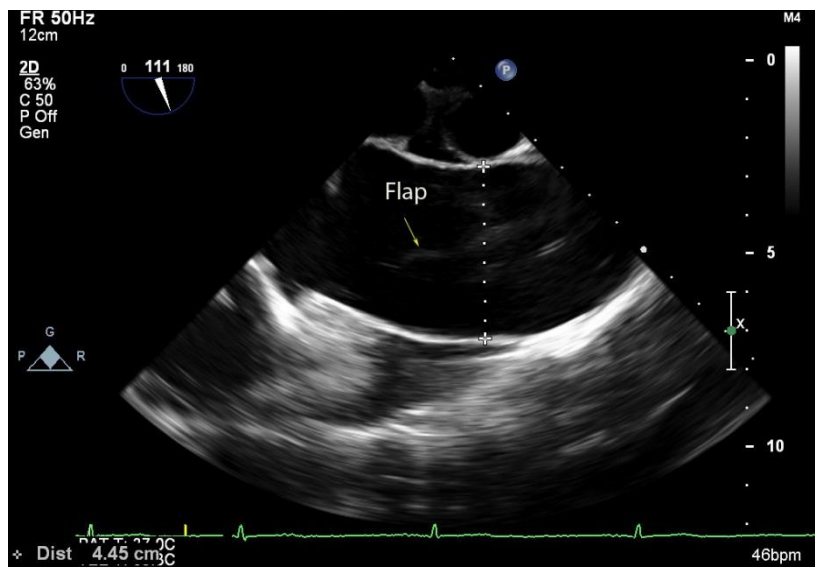


**Figure 3:** The image illustrates the dissection flap in the CCA (Doppler sonography).

CCA, Common carotid artery



**Figure 4:** The image illustrates the bicuspid aortic valve in transesophageal echocardiography.



**Figure 5:** The image illustrates the dilated ascending aorta and the dissection flap in transesophageal echocardiography.



**Figure 6:** The image illustrates the dissection flap.

## DISCUSSION

Aortic dissection is defined as the separation of the aortic wall layers. With tearing in the intimal layer and blood entering the intima-media space, the dissection propagates from the proximal or distal portion. Aortic dissection may present in different forms of unusual signs and symptoms other than chest pain such as syncope, pulse deficits, neurological problems, abdominal or back pain, and anuria. Many patients arrive at the emergency department for other reasons, and they are ultimately diagnosed with aortic dissection.<sup>1</sup> In a previous investigation, about 40% of the study population received a diagnosis of another disease, which resulted in an increase in the length of hospital stay.<sup>2</sup> In the IRAD (International Registry of Acute Aortic Dissection) study, the mortality rate of patients with type A dissection who did not undergo surgery was 58% and every hour of delay increased mortality by 1% to 4%.<sup>3</sup> In a large study, 19% of patients with type A dissection presented with syncope.<sup>4</sup> Although head and neck pain is an unusual manifestation of type A aortic dissection, Philip et al<sup>5</sup> reported that 44% of their study

population had cervical arch vessel involvement and that the mortality rate of patients with only head and neck pain without chest pain was high by comparison with the control group. Acute renal failure is an important predictor of mortality in aortic dissection.<sup>6</sup>

Our case report underscores the fact that in patients with kidney transplantation, neck pain associated with an elevated creatinine level constitutes a very rare manifestation of aortic dissection.

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