

## Letter to the Editor / Editöre Mektup

## Imaging of the chronic type A aortic dissection by transthoracic and transesophageal echocardiogram

## Kronik Tip A Aort Diseksiyonunun Transtorasik ve Transözefageal Ekokardiyogram ile Görüntülenmesi

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Dear Editor;

A 66 years old man which has a known coronary artery disease was admitted to our cardiology polyclinic with chest pain and left arm pain. These pains started since 1 year ago and do not related any exercise, stress and fasting. History of patient is that he has coronary artery bypass grafting procedure and hypertension for 10 years. On physical examination, blood pressure was 120/80 mmHg, pulse 98 beats/min and 2/4 diastolic murmur noted in aortic area. All other physical findings were normal. Laboratory results were within normal limits. There was sinus rhythm and non spesific changes in inferior derivations on 12 lead electrocardiography. Chest x ray revealed a widening in the aortic knob and the lateral margin of the descending aorta. **Transthoracic echocardiography (TTE) reveal the suspected intimal flap in the proksimal aorta (Figure 1) and mild aortic insufficiency.** Transesophageal echocardiography (TEE) showed the dissection flap, false lumen and true lumen in ascending aorta and arcus aorta (Figure2 and 3). **Thoracic and abdominal Computerised Tomography (CT) performed and CT scan showed the dissection** extending from the aortic root to the right common iliac artery and encompass the left common carotid artery and left subclavian artery . The patient was consulted by cardiovascular surgery team. Surgical treatment was recommended to the patient but patient refused surgery and treated medically.

Aortic dissection occurs when an intimal tear develops, allowing blood to penetrate the aortic wall, dissect longitudinally through the media and form a false lumen. Consequently, the true lumen may be pressed and even blocked by the surrounding false lumen, that may cause serious consequences such as internal bleeding, renal failure, intestinal ischemia/necrosis, limb ischemia, and even death. Major factors of aortic dissection include age, hypertension, diabetes, and atherosclerosis (1-2). There are several imaging modalities used to suspect and diagnose aortic dissection: Telecardiography, transthoracic and transesophageal echocardiography, CT scanning, magnetic resonance imaging. CT is now the most frequently ordered diagnostic imaging modality for the initial evaluation of patients especially with suspected aortic dissection (3). But like in our case also transthoracic and transesophageal echocardiography can easily show intimal flap, false lumen and dissection (4-6). Because of the well documented, low cost, easily accessible and if bedside diagnostic tools must suffice because of the patient's critical condition, TTE and TEE is still recommended. In summary, in a patient with aortic dissection who is in a critical condition, bedside TTE and TEE is particularly helpful in emergency diagnosis and management decisions even if distal type aortic dissection.

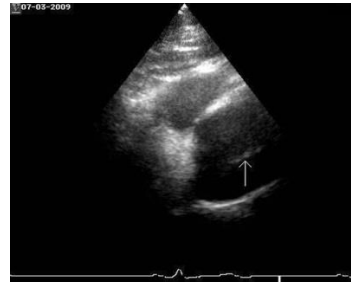


Figure 1. Transthoracic echocardiogram (TEE) shows true lumen, false lumen and flap of dissection (arrow).

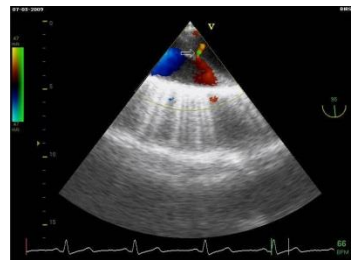


Figure 2. Color Doppler transesophageal echocardiogram (TEE) shows flow from true lumen to false lumen of aortic dissection.

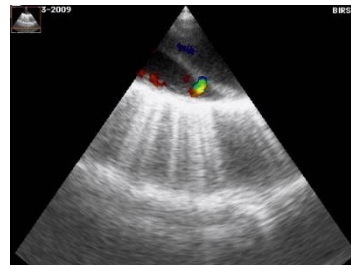


Figure 3. Transesophageal echocardiogram (TEE) shows true lumen, false lumen and flap of dissection.

## References

1. R. H. Mehta, P. T. O'Gara, E. Bossone et al. Acute type A aortic dissection in the elderly: clinical characteristics, management, and outcomes in the current era. JACC 2002; 40(4): 685-92
2. Hagan PG, Nienaber CA, Isselbacher EM, et Bruckman D, Karavite DJ, Russman PL, Evangelista A, Fattori R, Suzuki T, Oh JK, Moore AG, Malouf JF, Pape LA, Gaca C, Sechtem U, Lenferink S, Deutsch HJ, Dierichs H, Marcos y Robles J, Llovet A, et al. The International Registry of Acute Aortic Dissection (IRAD): new insights into an old disease. JAMA. 2000 16;283(7):897-903
3. Shiga T, Wajima Z, Apfel CC, Inoue T, Ohe Y. Diagnostic accuracy of transesophageal echocardiography, helical computed tomography, and magnetic resonance imaging for suspected thoracic aortic dissection: systematic review and meta-analysis. Arch Intern Med 2006;166:1350-56.
4. Hartnell G, Costello P, Goldstein S, et al. The diagnosis of thoracic aortic dissection by noninvasive imaging procedures. New Engl J Med 1993; 328:1637
5. Blanchard DG, Kimura BJ, Dittrich HC, DeMaria AN. Transesophageal echocardiography of the aorta. JAMA 1994; 272:546.
6. Penco M, Papanoni S, Dagianti A et al. Usefulness of transesophageal echocardiography in the assessment of aortic dissection. Am.J.Cardiol. 2000; 86: 53G-6G

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