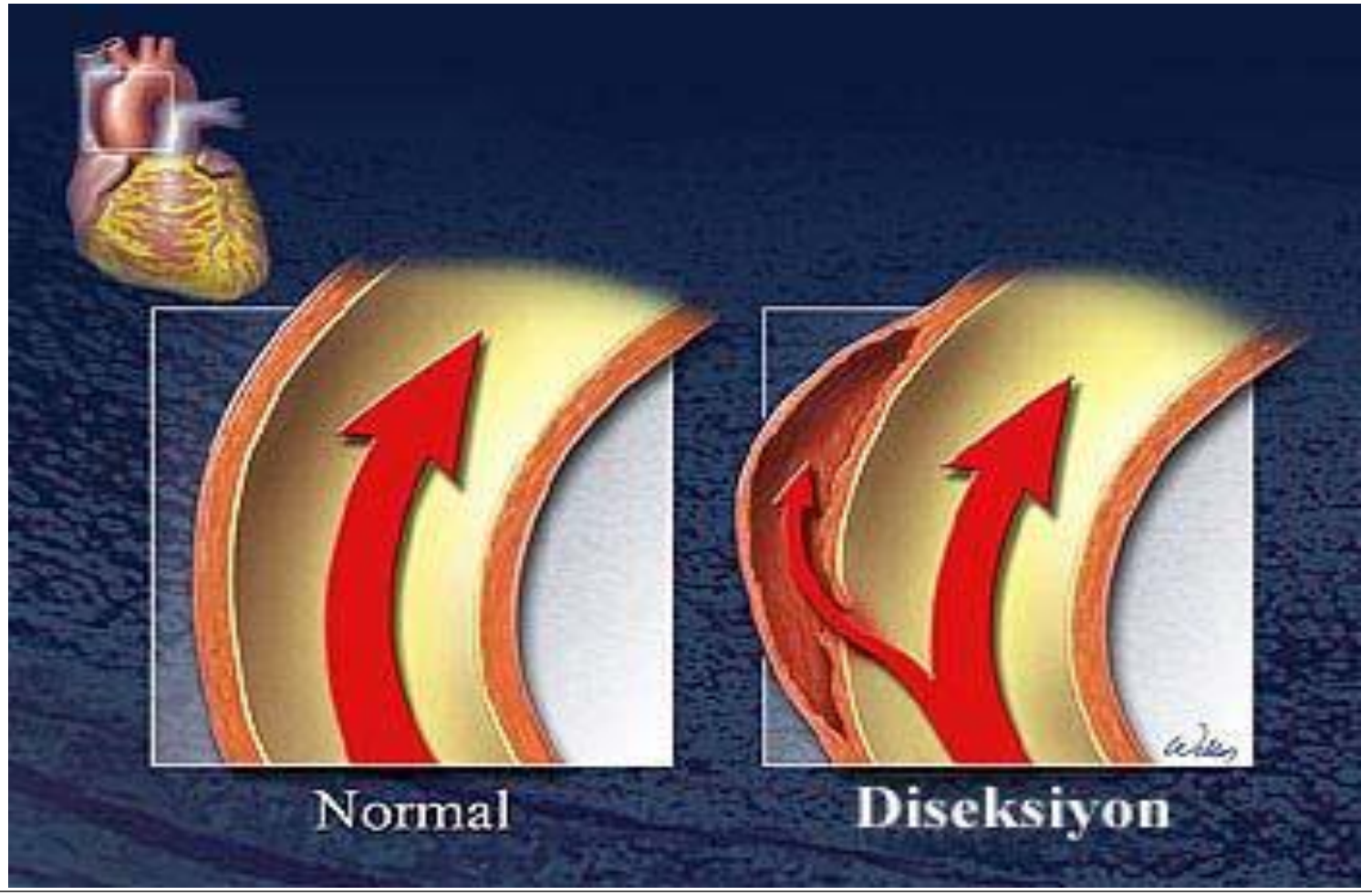
Acil Serviste Aort Diseksiyonu Nasıl Yakalanır?

Uzm.Dr Fevzi YILMAZ

Antalya Eğitim ve Araştırma Hastanesi

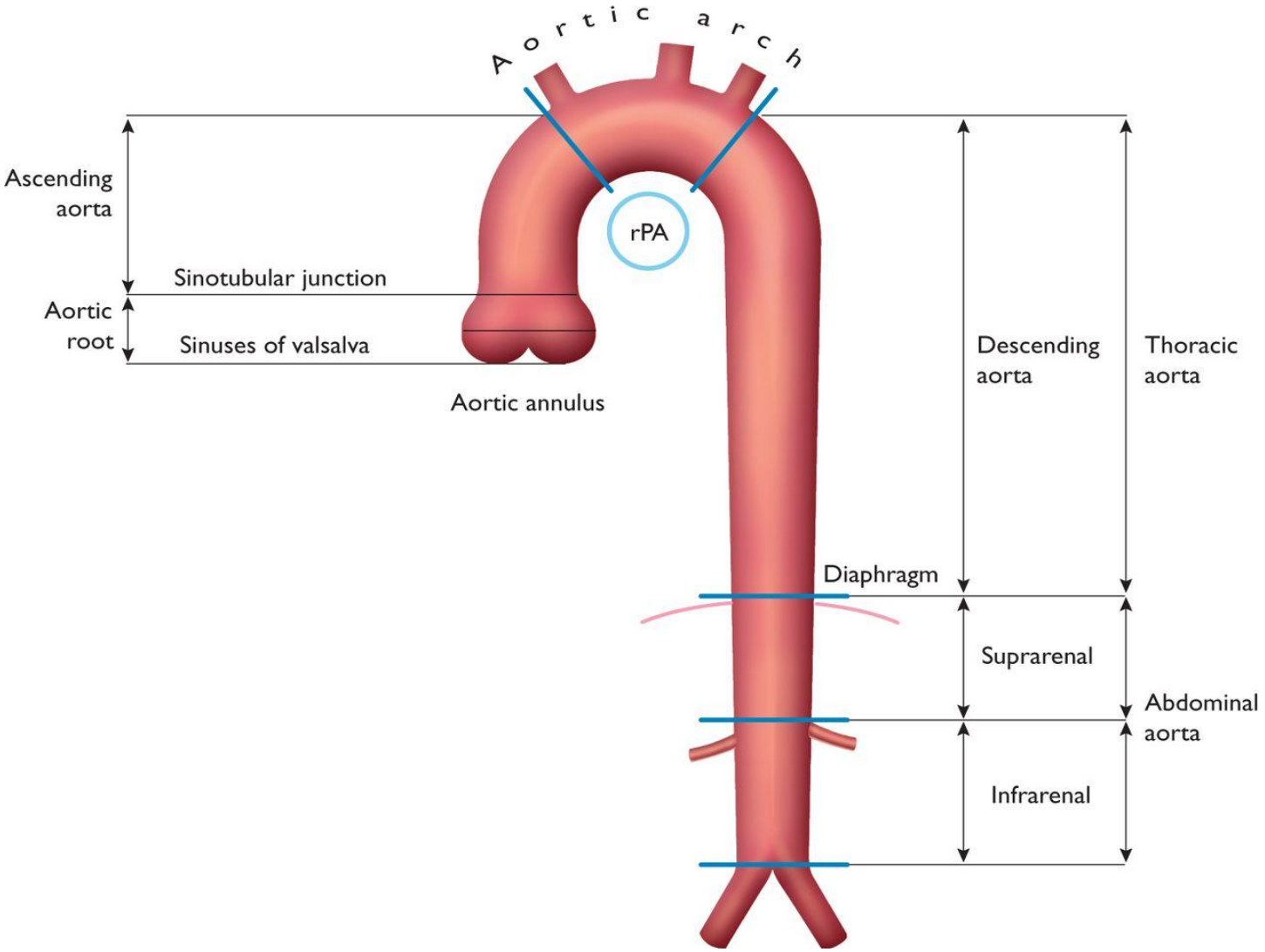
Tanım

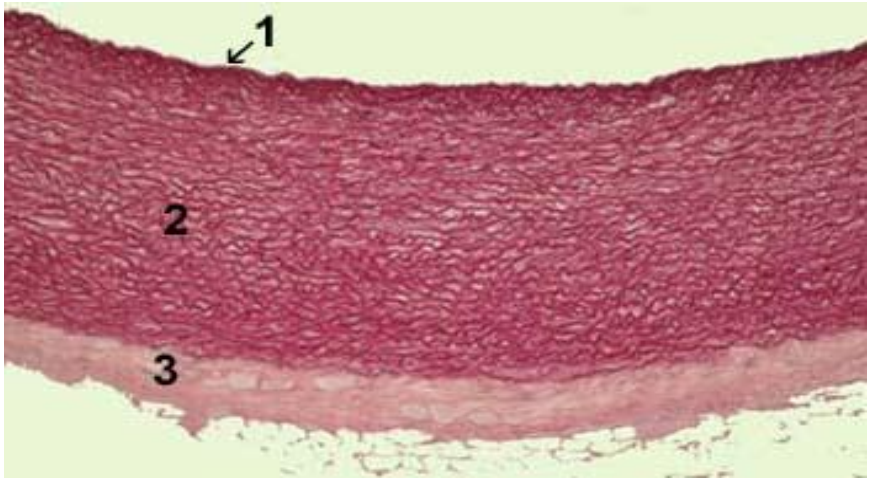
Kanın Lümen Dışında, Aort Tabakaları Arasında Bulunması



İnsidans

- Yıllık Olay : 2.6 –3.5 / 1,000,000
- ABDde yılda 7000 olgu,2000 ölüm
- Türkiye'de 350 - 1400 vaka/yıl
- Otopsilerin %0.2-0.8 inde
- E/K:2/1
- Sıklıkla 6 ve 7. dekadda


Aortic arch
Ascending aorta
Sinotubular junction
Aortic root
Sinuses of valsalva
Aortic annulus
rPA
Descending aorta
Thoracic aorta
Diaphragm
Suprarenal
Abdominal aorta
Infrarenal

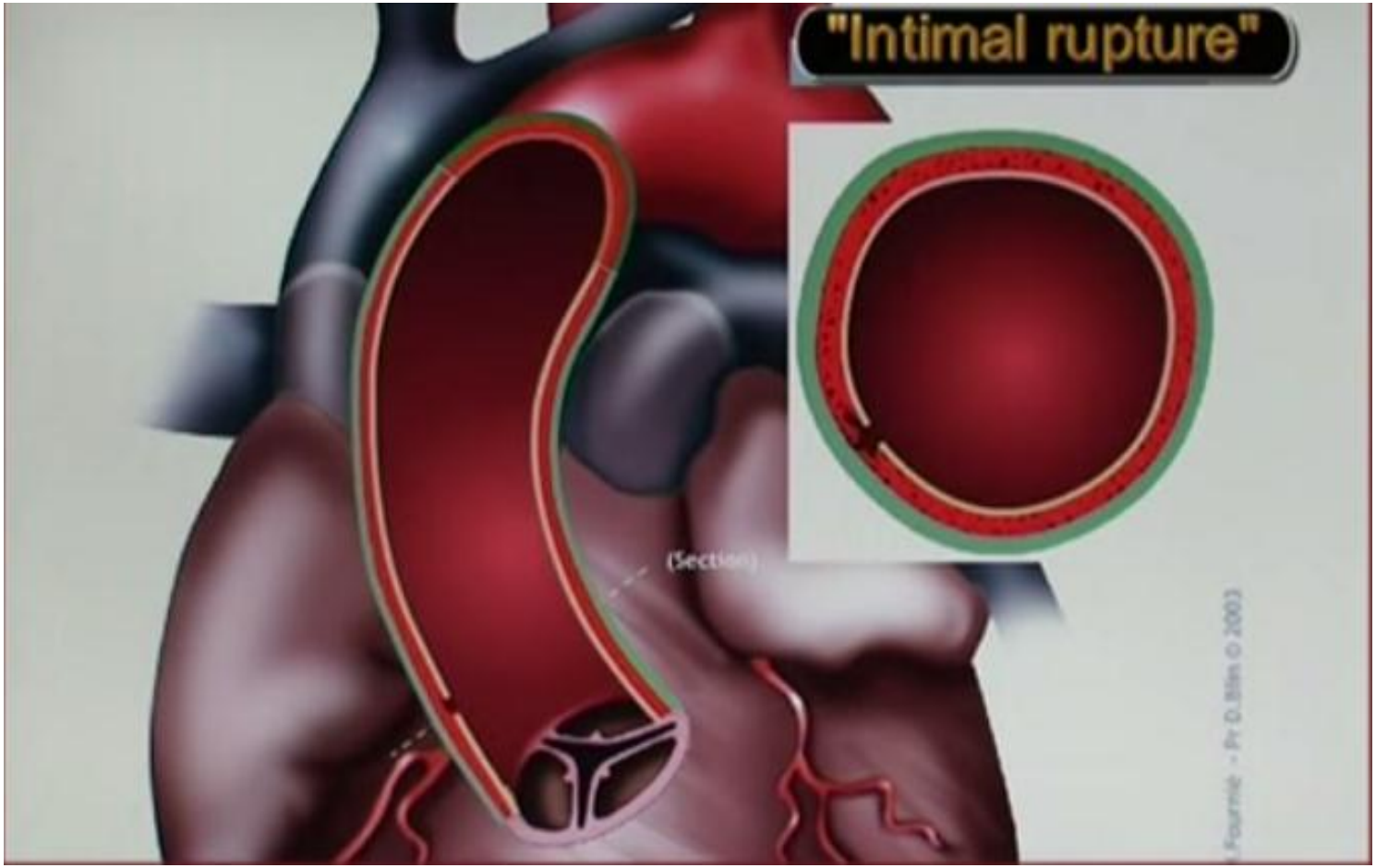


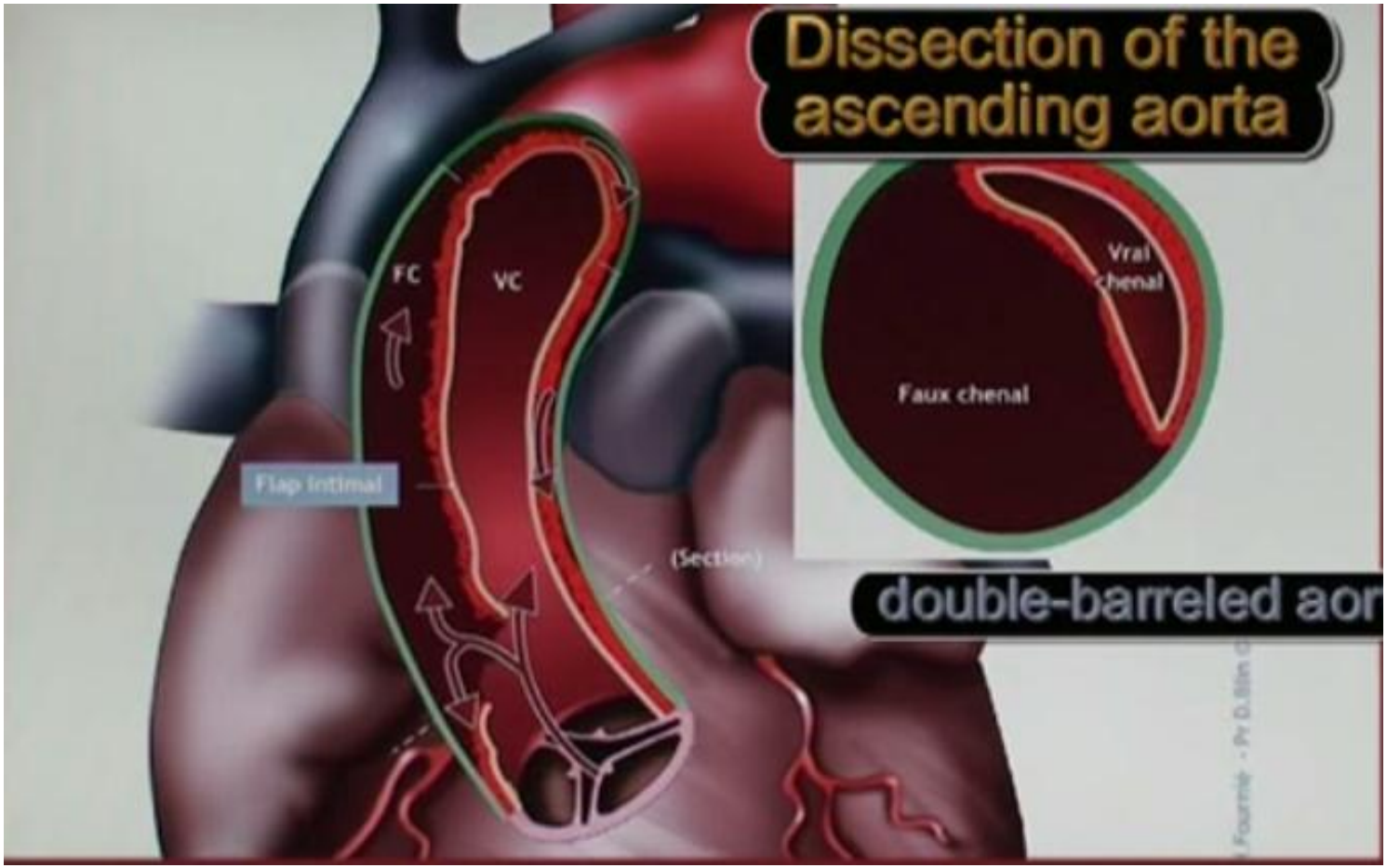
1) tunica intima

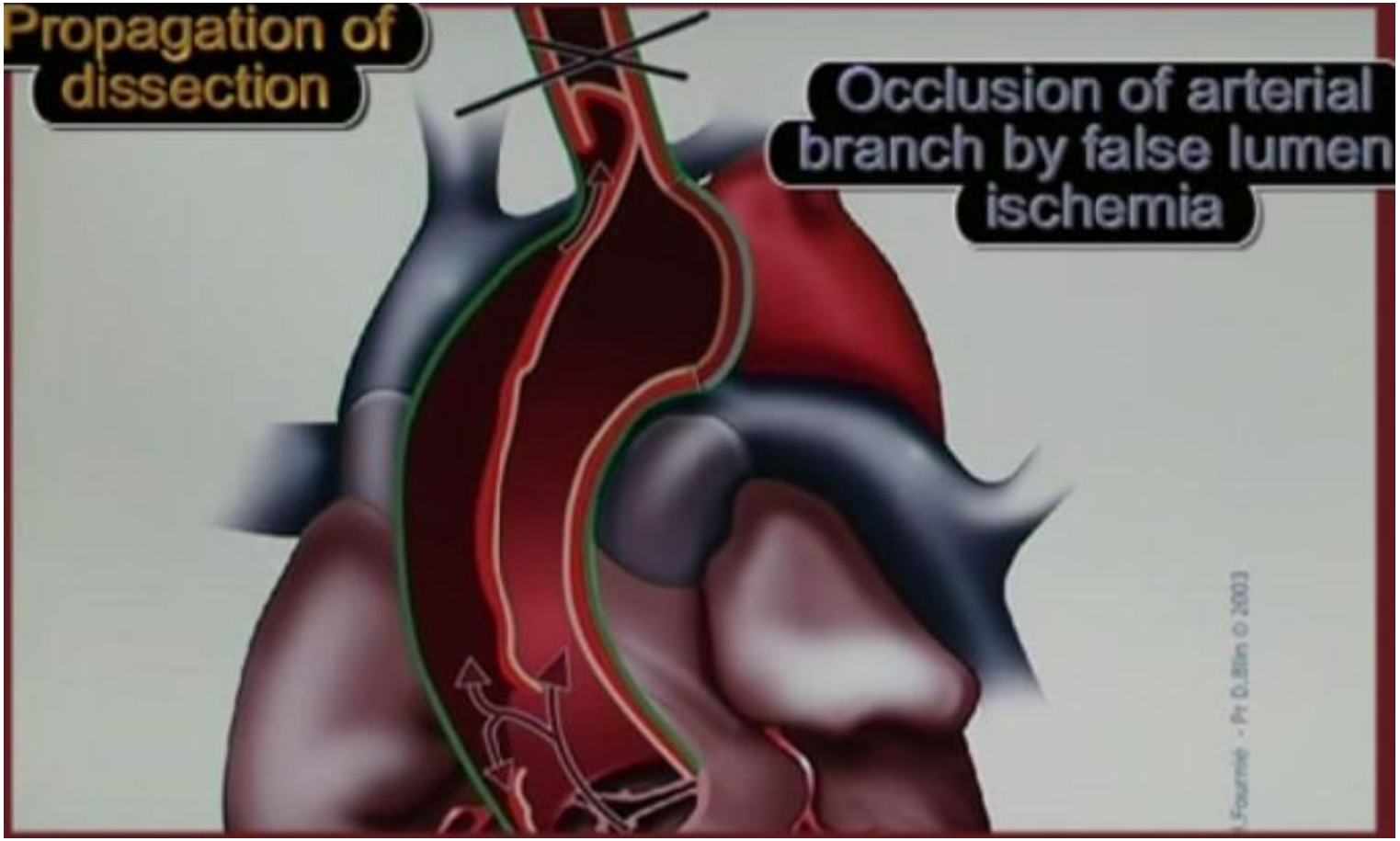
2) tunica media

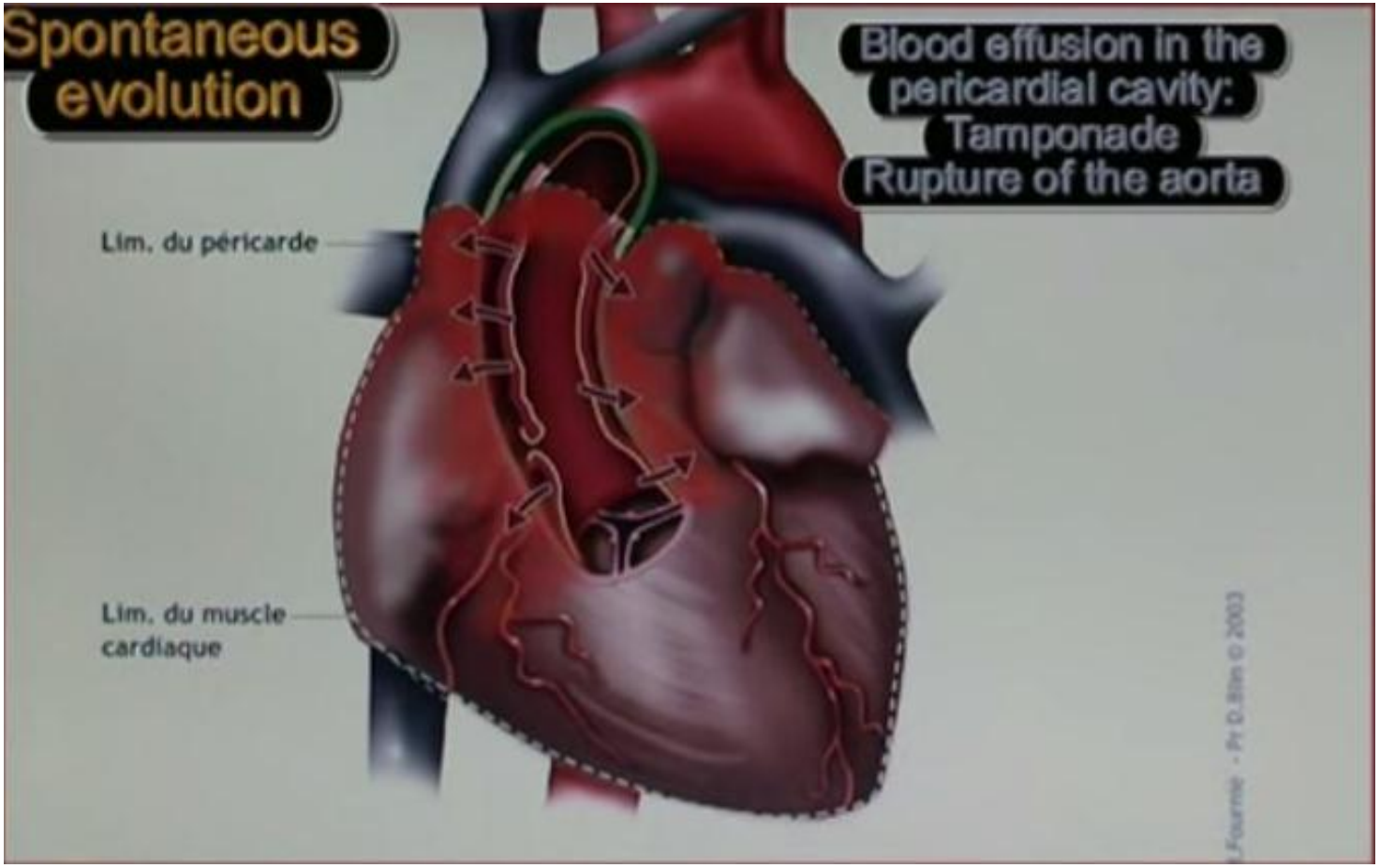
3) tunica adventisya

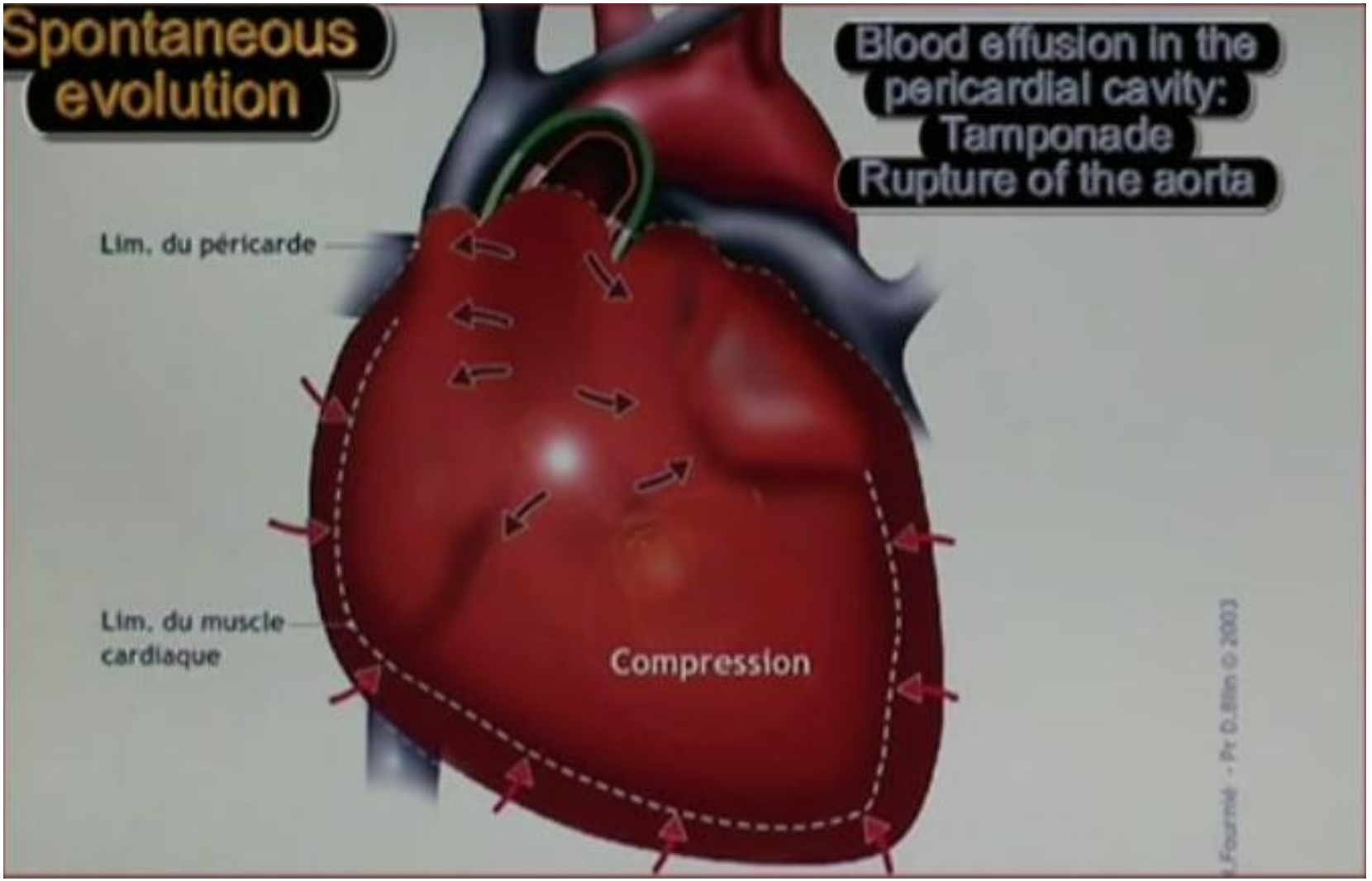
Patofizyoloji




Dissection of the ascending aorta
FC
VC
Flap intimal
Vrai chenal
Faux chenal
(Section)
double-barreled aor


Propagation of dissection
Occlusion of arterial branch by false lumen ischemia


Spontaneous evolution
Blood effusion in the pericardial cavity: Tamponade Rupture of the aorta
Lim. du péricarde
Lim. du muscle cardiaque


Spontaneous evolution
Blood effusion in the pericardial cavity:
Tamponade
Rupture of the aorta
Lim. du péricarde
Lim. du muscle cardiaque
Compression

Etyoloji

Akkiz Durumlar

- Kronik HT (%72), Ateroskleroz (%31)
- Aort anevrizması (%13)
- CABG (koroner artery bypass graft surgery)
- Aortic kapak replasmanı
- Kardiak kateterizasyon ve/veya Koroner girişim
- Travma
- Ağırlık kaldırma veya diğer yorucu eğitimler
- Kokain
- Gebelik

❖ Konjenital Hastalıklar

- Bikuspid aortik kapak
- Aort Koarktasyonu
- Turner sendromu

Kollojen doku hastalıkları

- Marfan sendromu
- Ehlers-Danlos sendromu
- Aortik ektazi ve familyal aort disseksiyonu

Vaskülitler

- Takayasu arteriti
- Dev Hücreli arterit
- Behçet hastalığı
- Mikotik-Sifilis
- Romatoid artrit

Sınıflama

- **Stanford sınıflaması;**

  Tip A çıkan aortta (cerrahi gerektirir)

  Tip B inen aortta (medikal tedavi edilir)

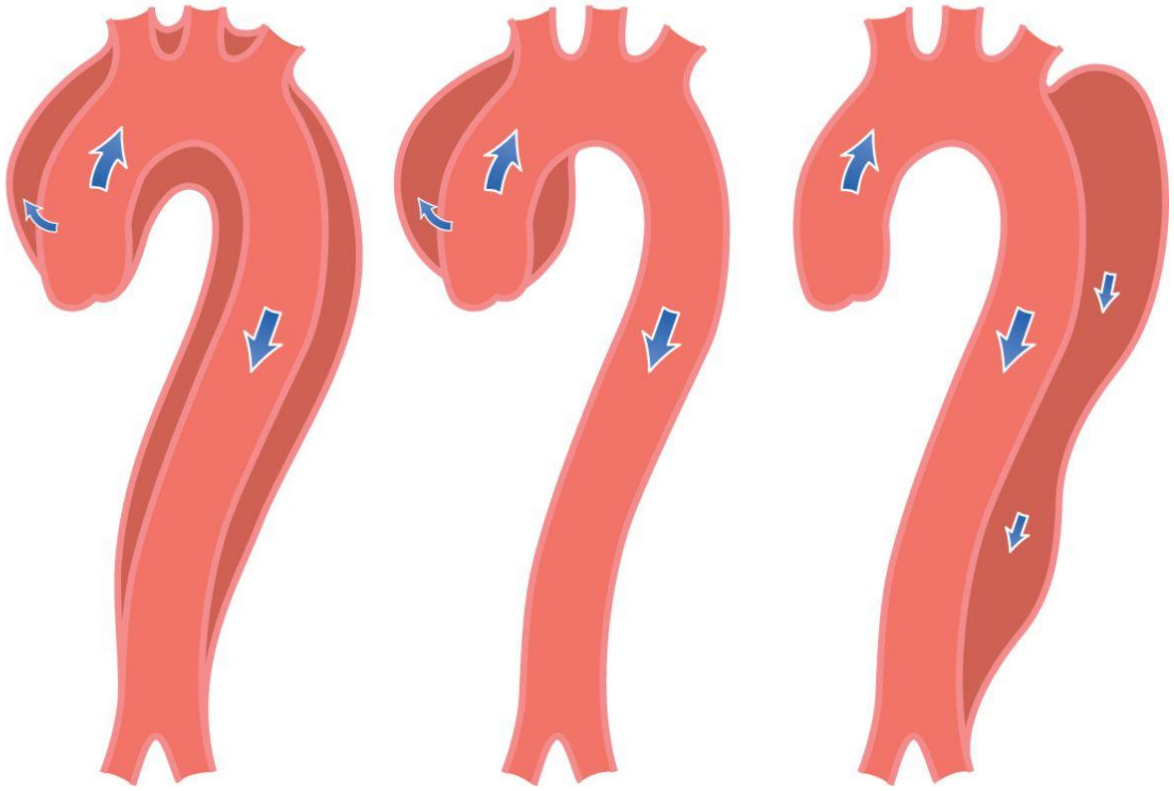
- **De Bakey sınıflaması;**

  Tip 1 çıkan aort, ark ve inen aorta

  Tip 2 sadece çıkan aortta

  Tip 3 sadece inen aortu tutanları

De Bakey	Type I	Type II	Type III
Stanford	Type A	Type A	Type B



Lokalizasyon

- Çıkan aort:%65
- İnen aort:%20
- Arkus aort:%10
- Abdominal aorta:%5

Fizik Muayene

- Endişe ve ölüm korkusu olur
- Hipertansiyon ve taşikardi sık, hipotansiyon da görülebilir
- Çoğunlukla Fm'de Normal Kalp Ve Akciğer Bulguları Saptanır
- Radial, Femoral Ve/Veya Karotik Arterlerde Nabız Zayıflığı (%20)
- R-L Tansiyon Farkı İle İlgili Spesifik Bir Eşik Değer Yok, 20 mmHg Fark Anlamlı

	Type A	Type B
Chest pain	80%	70%
Back pain	40%	70%
Abrupt onset of pain	85%	85%
Migrating pain	<15%	20%
Aortic regurgitation	40–75%	N/A
Cardiac tamponade	<20%	N/A
Myocardial ischaemia or infarction	10–15%	10%
Heart failure	<10%	<5%
Pleural effusion	15%	20%
Syncope	15%	<5%
Major neurological deficit (coma/stroke)	<10%	<5%
Spinal cord injury	<1%	NR
Mesenteric ischaemia	<5%	NR
Acute renal failure	<20%	10%
Lower limb ischaemia	<10%	<10%

Klinik Bulgular

- Laringeal sinir basısı: ses kısıklığı
- Sempatik ggl bası: horner sendromu
- Trakeal bası: dispne, stridor, wheezing
- Özefagus basısı: disfaji
- Komşu yapılara fistülizasyon nedeni ile: hemoptizi, hematemez
- Kalça ağrısı, tenezm, üriner semptomlar

Ayırıcı Tanı

- MI
- Miyokardit
- Aort yetmezliği
- Aort darlığı
- Mekanik sırt ağrısı
- Hipertansif aciller
- Myopati
- Gastroenterit
- Perikardit ve Kardiak tamponad
- Pulmoner emboli
- Plevral effüzyon
- Şok (kardiyojenik, hipovolemik,hemorajik)
- Pankreatit

Tanı Yöntemleri

- Hızlı
- Tehlikesiz
- Doğru

Tanı İçin Geçen Zaman Ne Kadar Uzun Olursa

Perioperatif Mortalite O Kadar Yüksek Olur

Tanıda arayacağımız tedaviyi etkileyen önemli noktalar;

- Asendan aorta tutulumu var mı?
- Aort yetmezliği var mı?
- Perikardiyal efüzyon/tamponad var mı?
- Koroner tutulum var mı?

Tanı

3 klini

Ağrı

Dg'd

Nabı

Aort

Klinik şüphe ile konur

Hiçbiri yoksa:%7

Ağrı ve genişleme:%31-39

İzole KB/nabız farkı veya 3 bulgu :%83

Laboratory tests	To detect signs of:
Red blood cell count	Blood loss, bleeding, anaemia
White blood cell count	Infection, inflammation (SIRS)
C-reactive protein	Inflammatory response
ProCalcitonin	Differential diagnosis between SIRS and sepsis
Creatine kinase	Reperfusion injury, rhabdomyolysis
Troponin I or T	Myocardial ischaemia, myocardial infarction
D-dimer	Aortic dissection, pulmonary embolism, thrombosis
Creatinine	Renal failure (existing or developing)
Aspartate transaminase/ alanine aminotransferase	Liver ischaemia, liver disease
Lactate	Bowel ischaemia, metabolic disorder
Glucose	Diabetes mellitus
Blood gases	Metabolic disorder, oxygenation

Lab

- D-Dimer

  <500 ng/ml ise aort diseksiyonu dışlanır*

- Serum düz kas myozin ağır zinciri (SMA)

  duyarlılık %91 özgüllük %98

  ilk 3 saatte >10mcg/L ise özgüllük %100

- CRP, troponin, LDH, lökosit sayısının yararı gösterilememiş

Suzuki T et al. Circulation. 2009 26;119(20):2702-7

Abstract ▾ Send to: ▾

Medicine (Baltimore). 2015 Jan;94(4):e471. doi: 10.1097/MD.0000000000000471.

D-dimer as a biomarker for acute aortic dissection: a systematic review and meta-analysis.

Cui JS[1], Jing ZP, Zhuang SJ, Qi SH, Li L, Zhou JW, Zhang W, Zhao Y, Qi N, Yin YJ.

⊕ Author information

Abstract

To perform a meta-analysis and examine the use of D-dimer levels for diagnosing acute aortic dissection (AAD). Medline, Cochrane, EMBASE, and Google Scholar were searched until April 23, 2014, using the following search terms: biomarker, acute aortic dissection, diagnosis, and D-dimer. Inclusion criteria were diagnosis of acute aortic dissection, D-dimer levels obtained, 2-armed study. Outcome measures were the accuracy, sensitivity, specificity, positive predictive value, and negative predictive value of D-dimer level for the diagnosis of AAD. Sensitivity analysis was performed using the leave-one-out approach. Of 34 articles identified, 5 met the inclusion criteria and were included in the analysis. The age of participants was similar between treatments within studies. The number of AAD patients ranged from 16 to 107 (total=274), and the number of control group patients ranged from 32 to 206 (total=469). The pooled sensitivity of D-dimer levels in AAD patients was 94.5% (95% confidence interval [CI] 78.1%-98.8%, P<0.001), and the specificity was 69.1% (95% CI 43.7%-86.5%, P=0.136). The pooled area under the receiver-operating characteristic curve for D-dimer levels in AAD patients was 0.916 (95% CI 0.863-0.970, P<0.001). The direction and magnitude of the combined estimates did not change markedly with the exclusion of individual studies, indicating the meta-analysis had good reliability. D-dimer levels are best used for ruling out AAD in patients with low likelihood of the disease.

PMID: 25634194 [PubMed - indexed for MEDLINE]

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Biomarkers in Acute Aortic Dissection and Other Aortic Syndromes

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Birmingham, United Kingdom

Acute aortic syndromes have an incidence of >30 per million per annum and a high mortality without definitive treatment. Survival may relate to the speed of diagnosis. Although pain is the most common symptom, there is a large fraction of patients in whom the diagnosis may be mistaken or overlooked. Currently, a high index of clinical suspicion is the chief prompt that diverts a patient into a definitive algorithm of imaging investigations. Although there is no point-of-care biochemical test that can be reliably used to positively identify dissection, biomarkers are available that could accelerate the diagnostic pathway and thereby expedite treatment.
(J Am Coll Cardiol 2010;56:1535–41)

Acute aortic dissection (AAD) is the most common thoracic aortic emergency and may be rapidly fatal without early diagnosis and appropriate management (1,2). Symptoms, signs, electrocardiograms (ECGs), and chest X-rays lack sensitivity and specificity (1). Diagnosis is therefore not immediate; definitive confirmatory investigation may not available in the emergency room (ER), and the varied presentation allows the diagnosis to be missed, misdiagnosed, or overlooked in up to 40% of cases (3), sometimes only being established at post-mortem (4,5).

The 2 common classifications of AAD are the DeBakey (4,10). Other acute aortic syndromes (AAS), intramural hematoma, and deep penetrating ulcers may have similar presentations and prognosis but may cause less medial disruption (4). All aortic syndromes generate a vascular medial injury, and some generate an additional intimal lesion. Exposure of the media to blood elements initiates the coagulation cascade and generates a consumption coagulopathy. The degree of this coagulopathy will depend upon the surface area of tissue exposure and whether false luminal thrombosis occurs.

For all AAS, reduction in overall patient mortality might

EKG

- AMI ayırıcı tanısında önemli
- Disseksiyon koroner ostiuma uzanarak myokard iskemisi yapabilir
- Tip A diseksiyonlu %20 olguda EKG iskemi veya MI ile uyumlu
- AMI EKG bulgusu olan hastada diseksiyon şüphesi varsa trombolitik öncesi tanısal görüntüleme yapılmalı

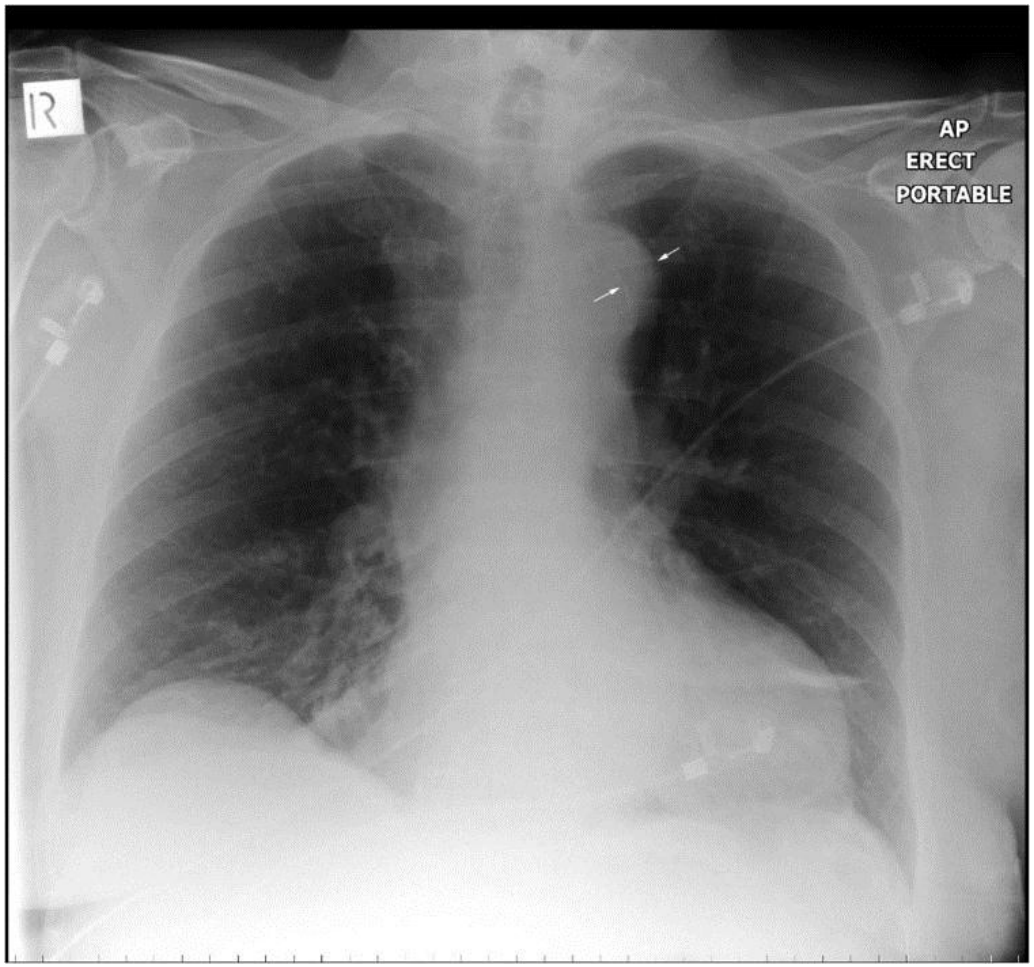
Görüntüleme

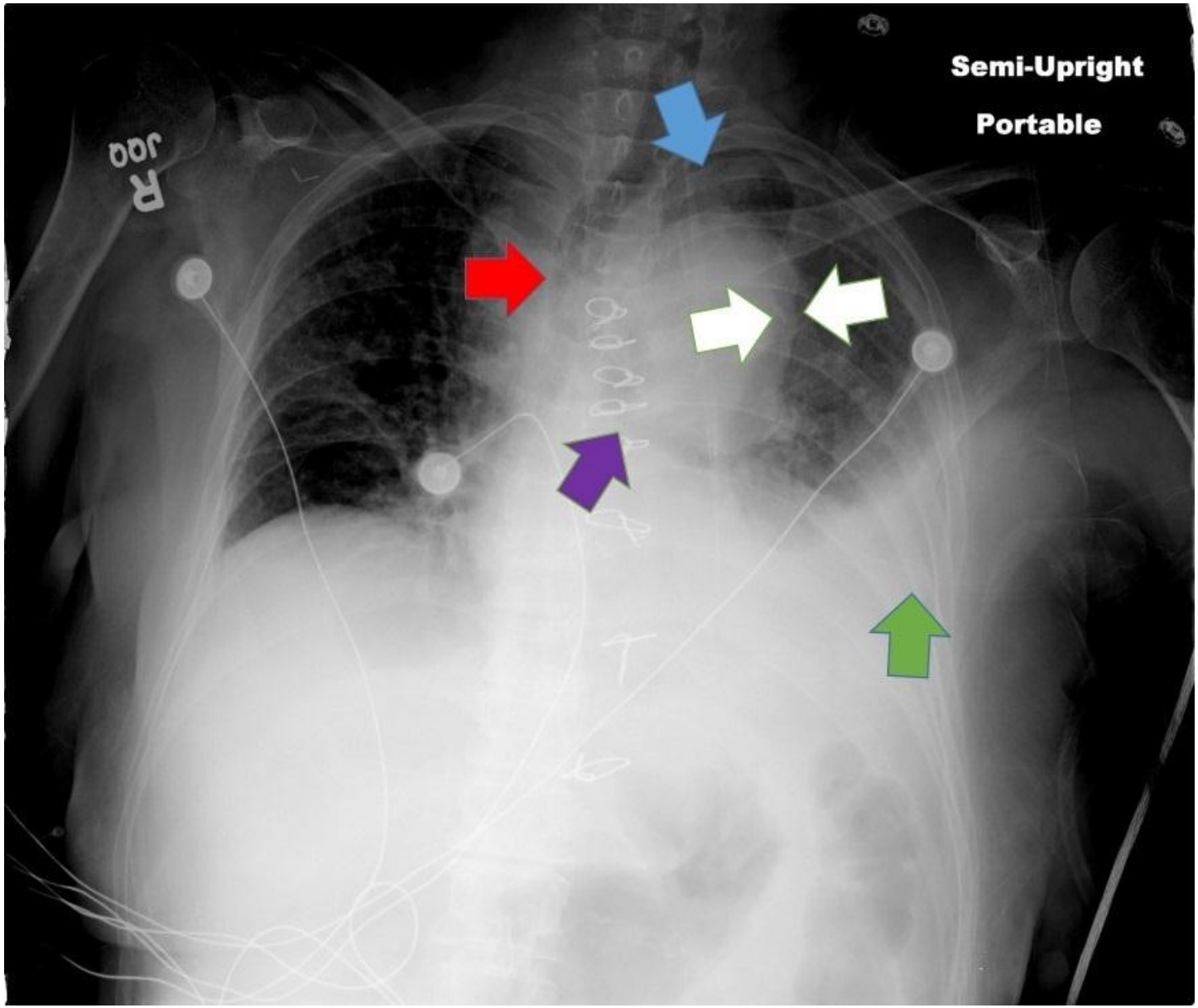
- Ac grafisi
- Ekokardiyografi : TTE ve TEE
- Bilgisayarlı Tomografi
- Aortografi
- Manyetik Rezonans

PAAG

- %80-90 anormal
- Mediastinal genişleme
- Kalsiyum bulgusu
- Aortada çift dansite
- Aort topuzunda silinme
- Trakeanın sağa deviasyonu
- Sol ana bronkus üzerine bası
- Yeni gelişen sol plevral efüzyon
- Assendan ve dessendan aort boyutlarında değişme

Kalsiyum bulgusu




Semi-Upright
Portable

Bilgisayarlı Tomografi

- Güvenilir , Çabuk, Non İnvazif
- Sensitivite % 83-100, Spesifite %87-100 dür
- Stabil hastada pratikliği nedeniyle tercih edilir, 24 saat/gün yapılabilir?
- Tip A-B Ayrımı, Gerçek/Yalancı Lümen Ayrımını yapar, Aort dal tutulumu, Diğer Patolojileri gösterir
- BT Dezavantajı: Kontrast madde reaksiyonu, kapak fonksiyonu, intimal yırtık yeri hakkında yeterli bilgi vermez.

Herz. 2014 Dec;39(8):931-40. doi: 10.1007/s00059-014-4182-2.

[Diagnosis and treatment of aortic diseases : new guidelines of the European Society of Cardiology 2014].

[Article in German]

Eggebrecht H[1].

⊕ Author information

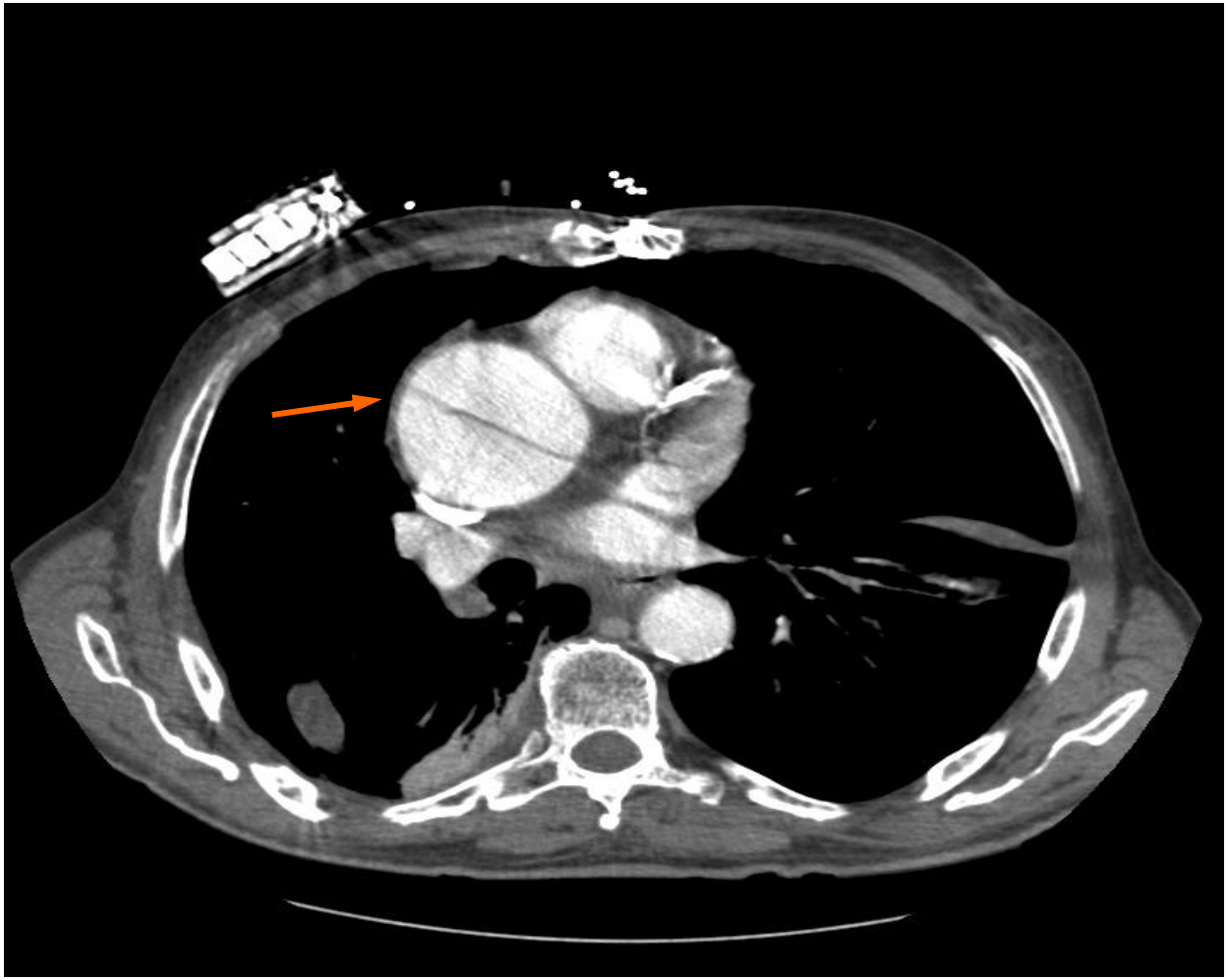
Open/close author information list

Abstract

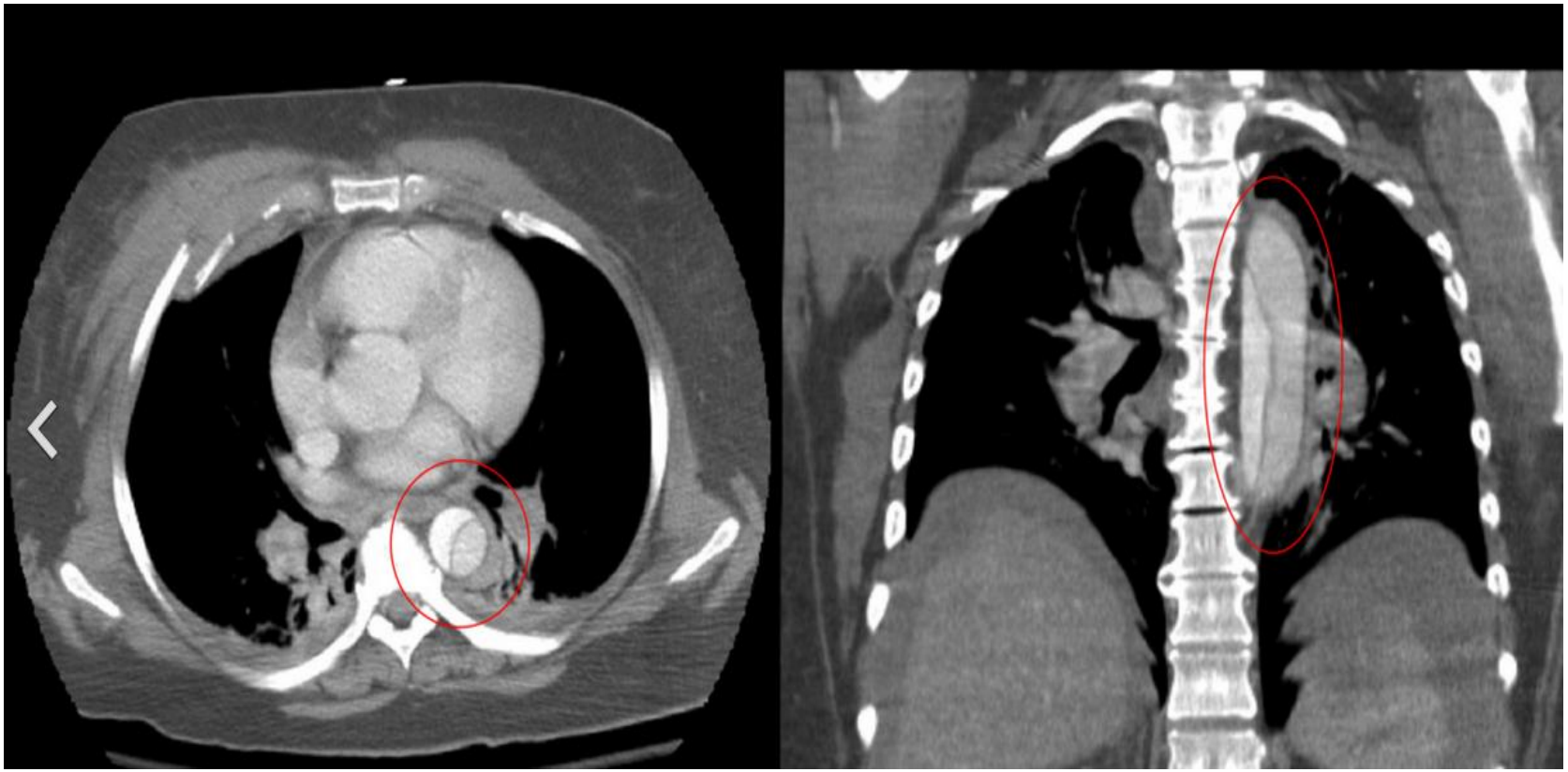
In September 2014 the European Society of Cardiology issued guidelines for the diagnosis and treatment of aortic diseases in adults. Contrast-enhanced computed tomography (CT) represents the imaging modality of first choice as it is rapidly and almost ubiquitously available and can evaluate the entire aorta in a single-step examination. In patients with a high clinical suspicion of an acute aortic syndrome based on (family) history and symptoms, CT should be performed without further delay to confirm or refute the diagnosis. Diseases involving the ascending aorta remain a domain of open surgery, be it on an emergency basis in an acute type A dissection or electively in asymptomatic aneurysms with an aortic diameter >5.5 cm. The presence of risk factors (e. g. bicuspid aortic valve, Marfan syndrome and aortic dissection/rupture in the family history) may prompt earlier surgical repair at a lower threshold diameter. The treatment of descending aortic disease is primarily conservative including modification of cardiovascular risk factors. If indicated, endovascular aortic stent graft repair appears to be superior to open surgery for descending thoracic aortic disease or equivalent in the treatment of infrarenal abdominal aortic aneurysms. The management of aortic diseases related to genetic connective tissue diseases (e. g. Marfan syndrome, Loeys-Dietz syndrome and Ehlers-Danlos syndrome) is complex and requires special multidisciplinary expertise.

Type A Stanford

Type A Stanford



Type B Stanford



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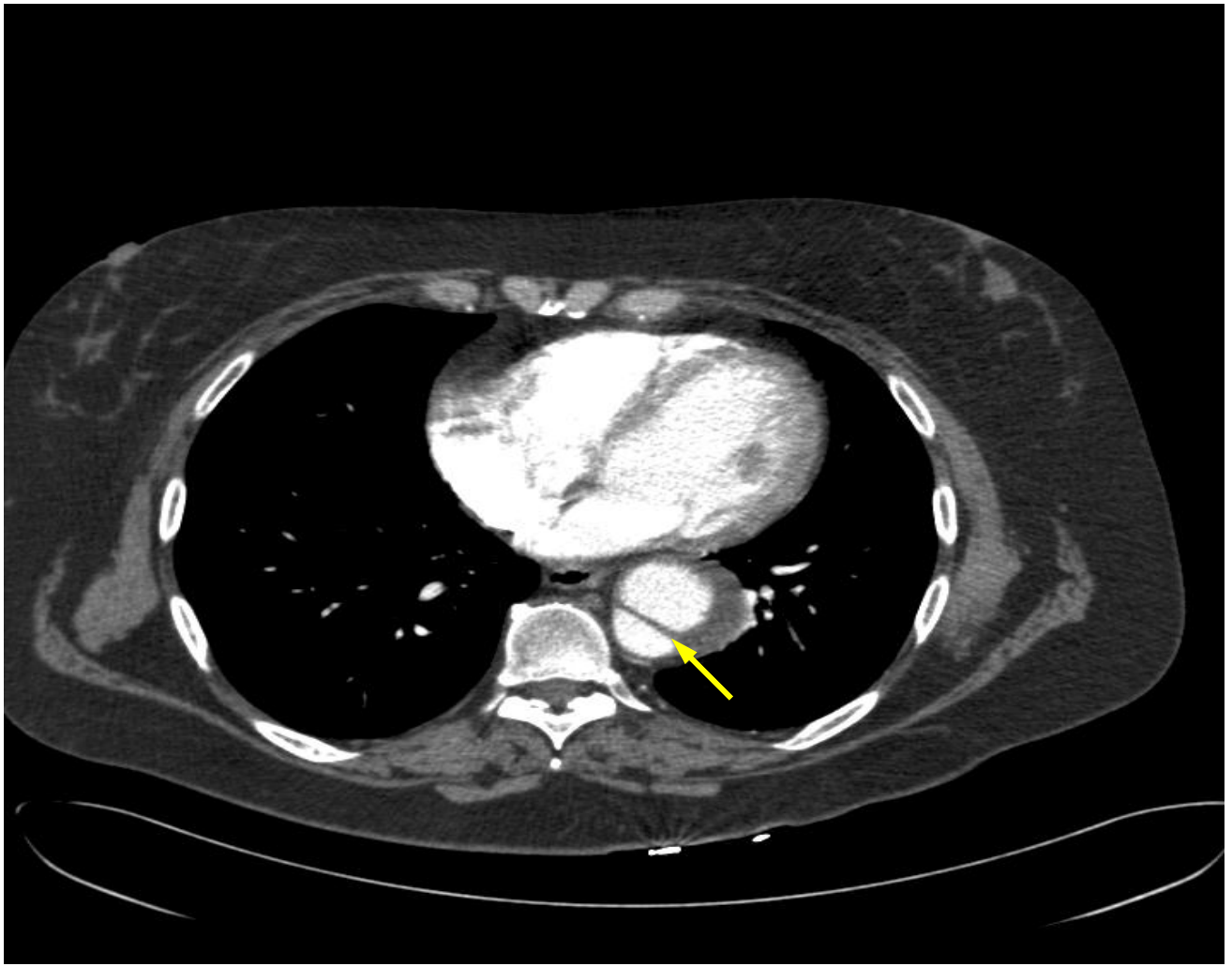

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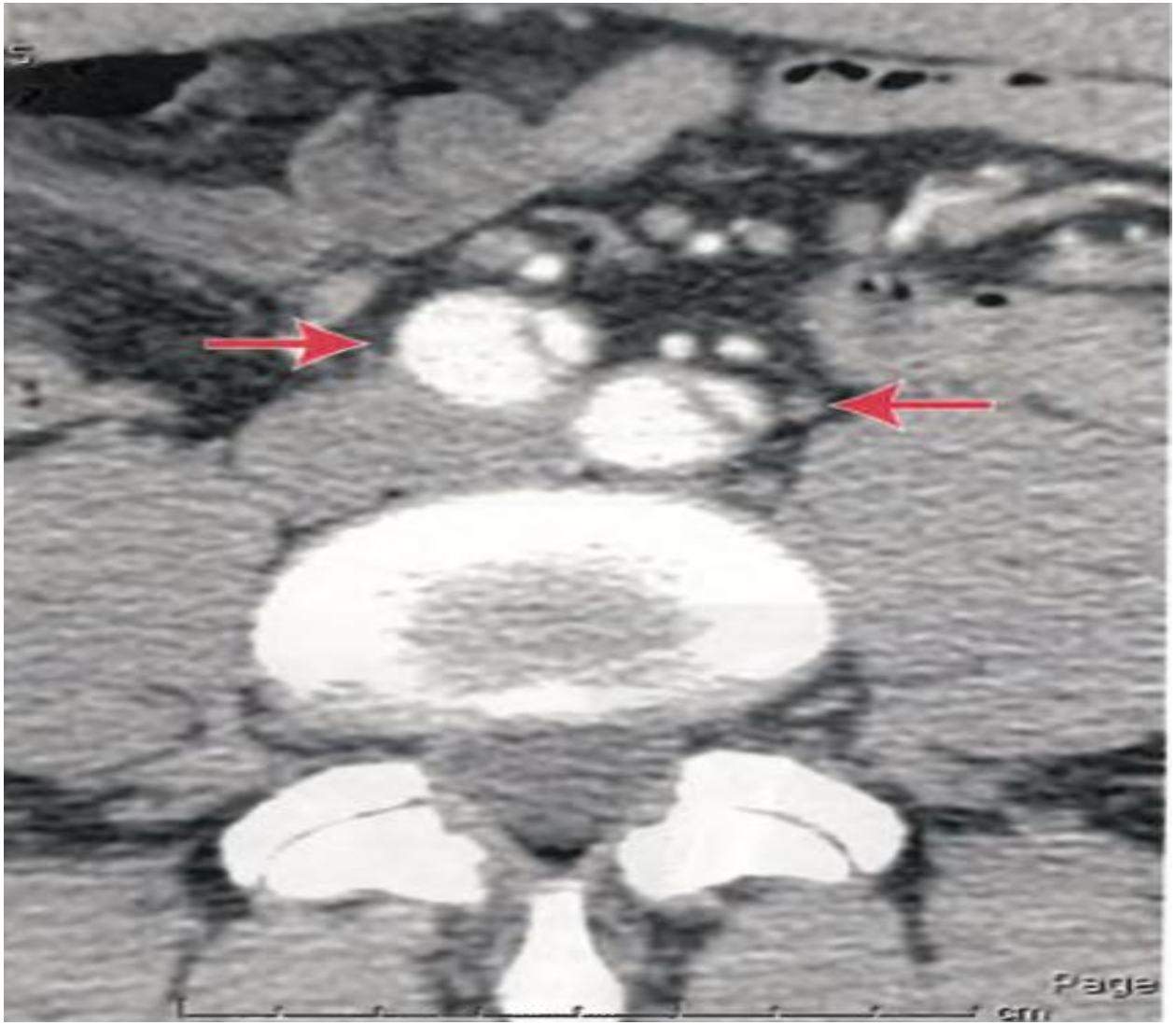
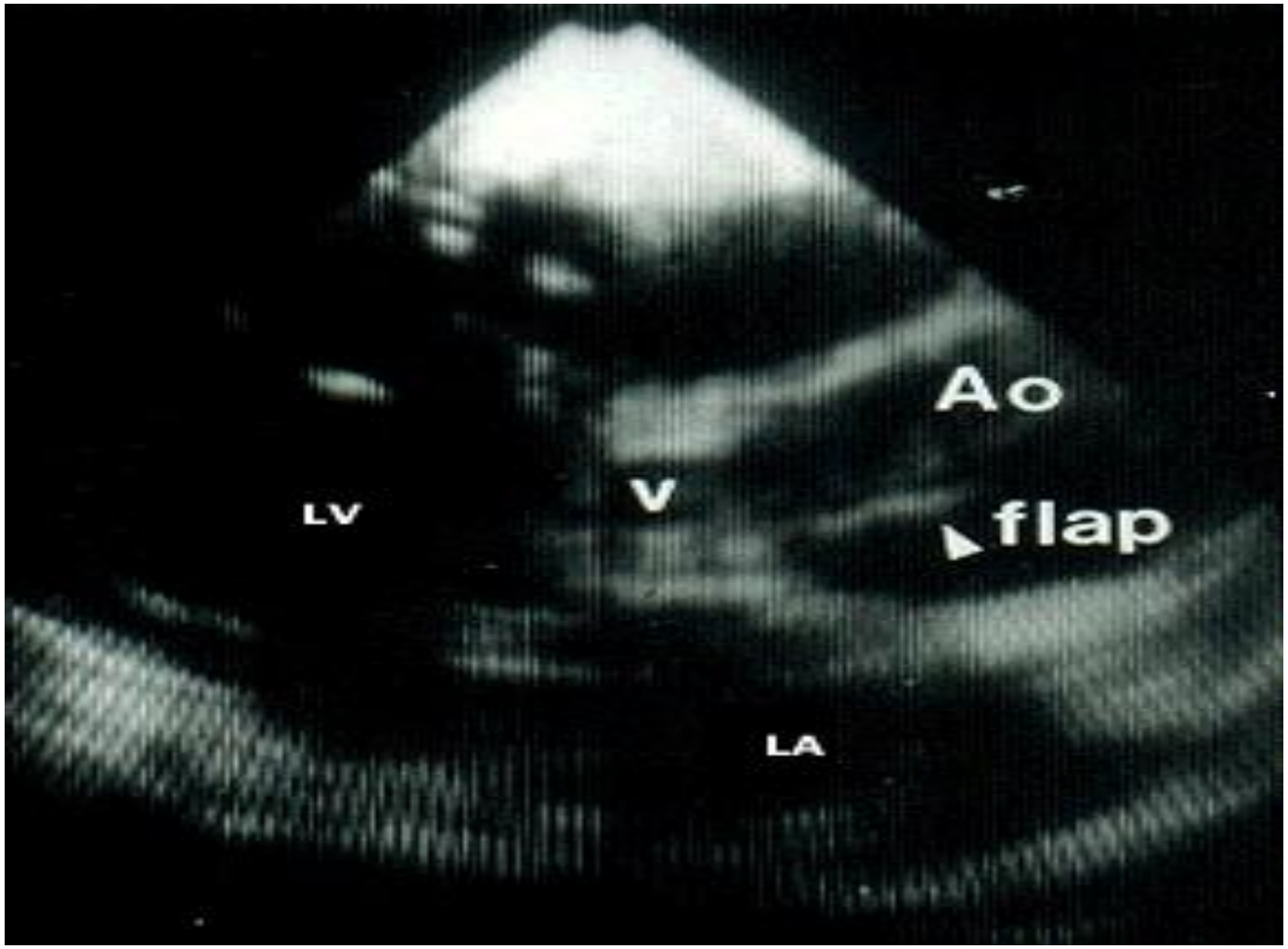


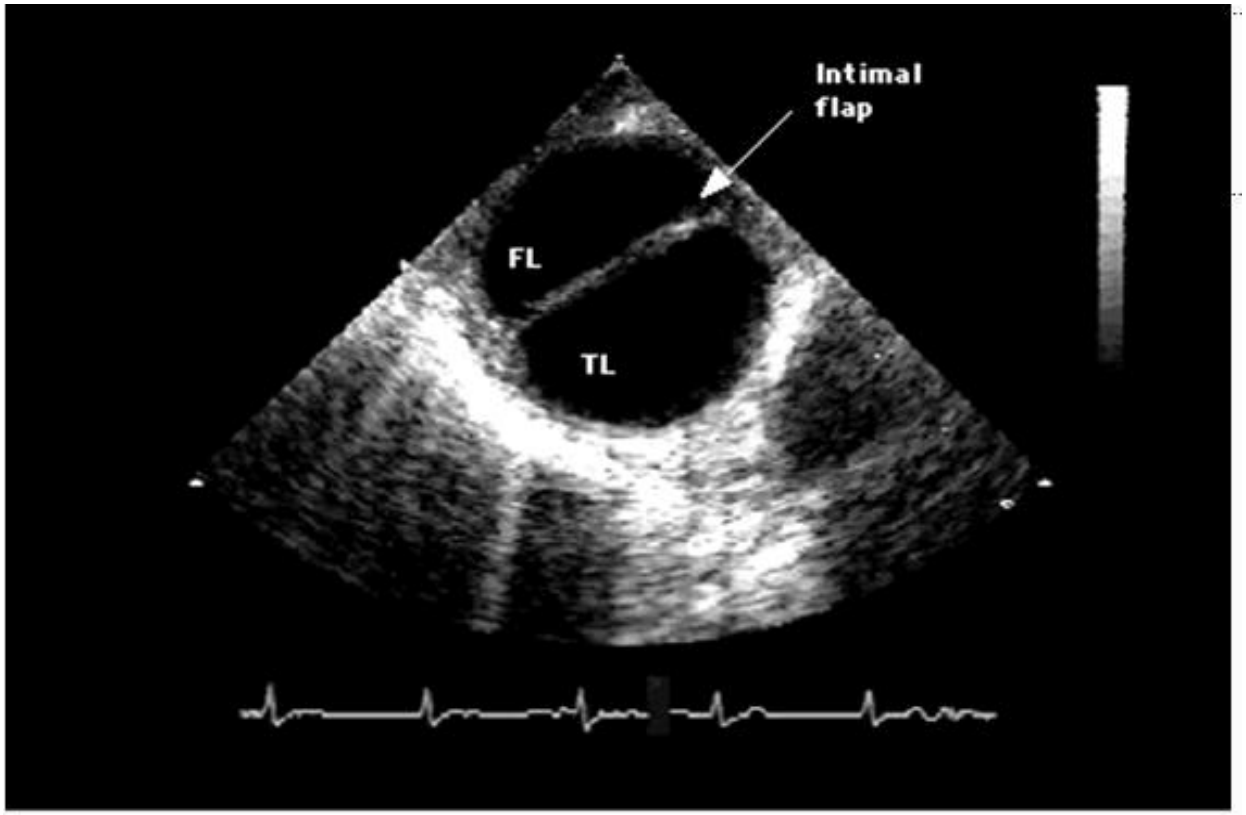
Ekokardiogram

- **Transtorasik Ekokardiografi (TTE)**
- **Transözofageal Ekokardiyogafi (TEE)**
- Ehil ellerde Anjiografi kadar yararlı olabilir.
- Sensivitesi % 97-100,Spesifitesi % 97-99

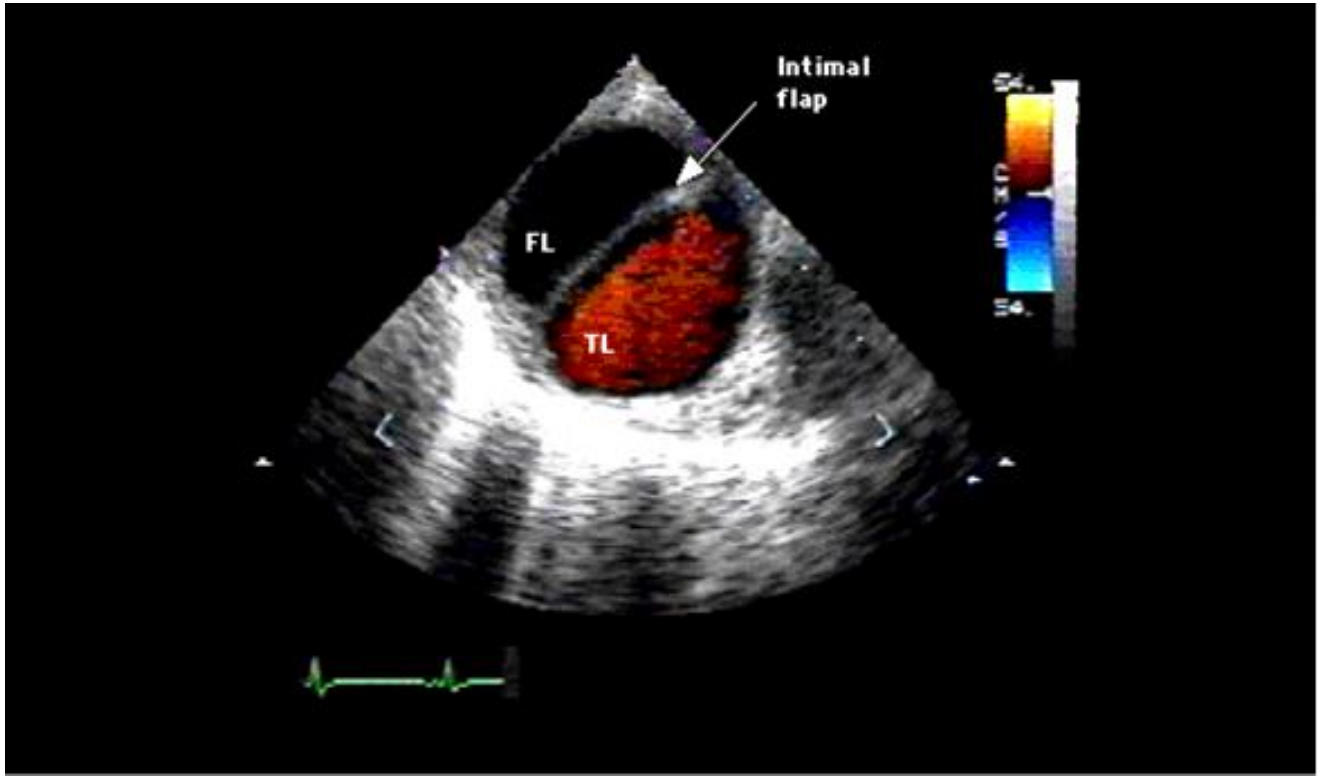
TTE

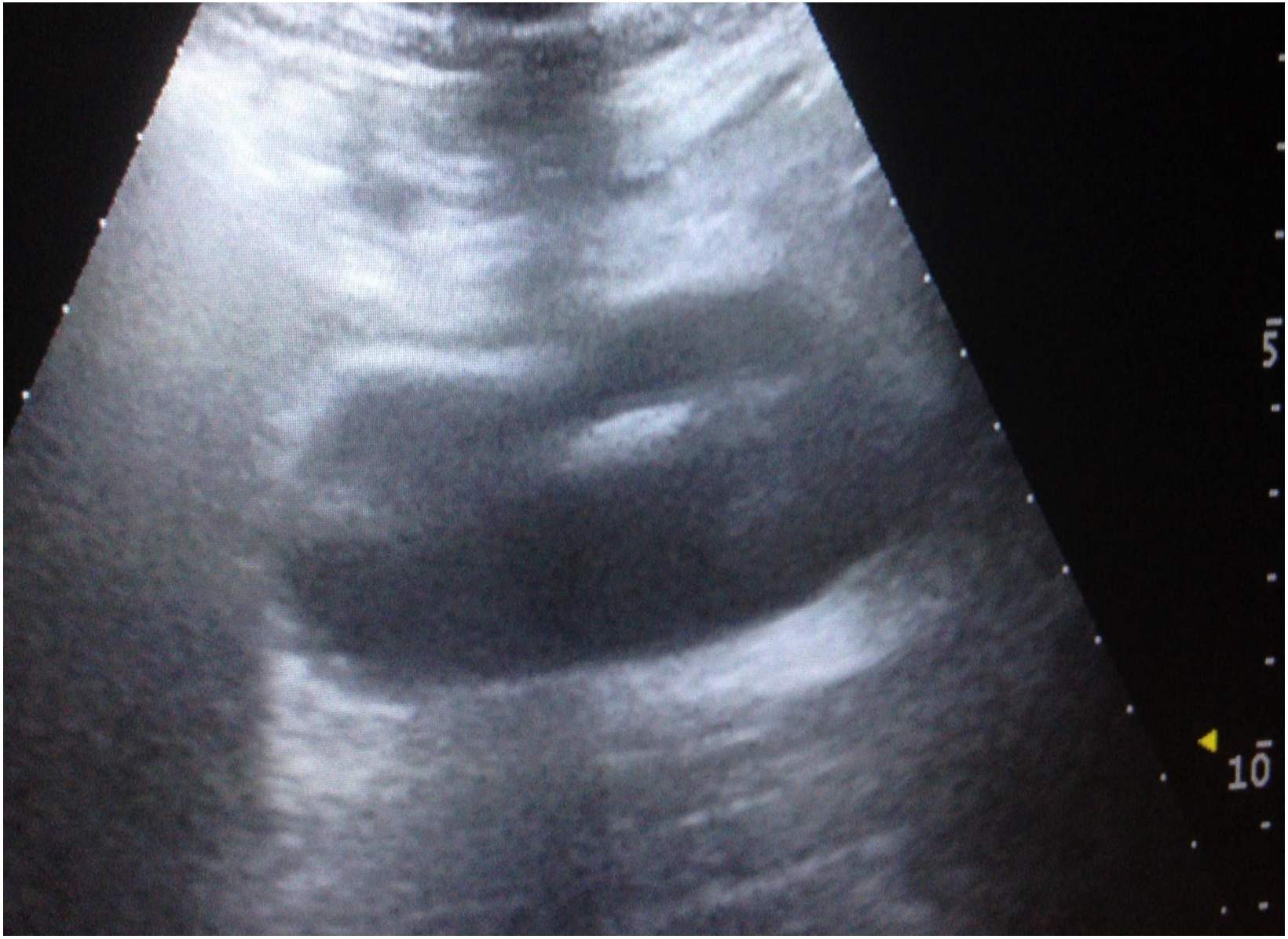


TEE



TEE

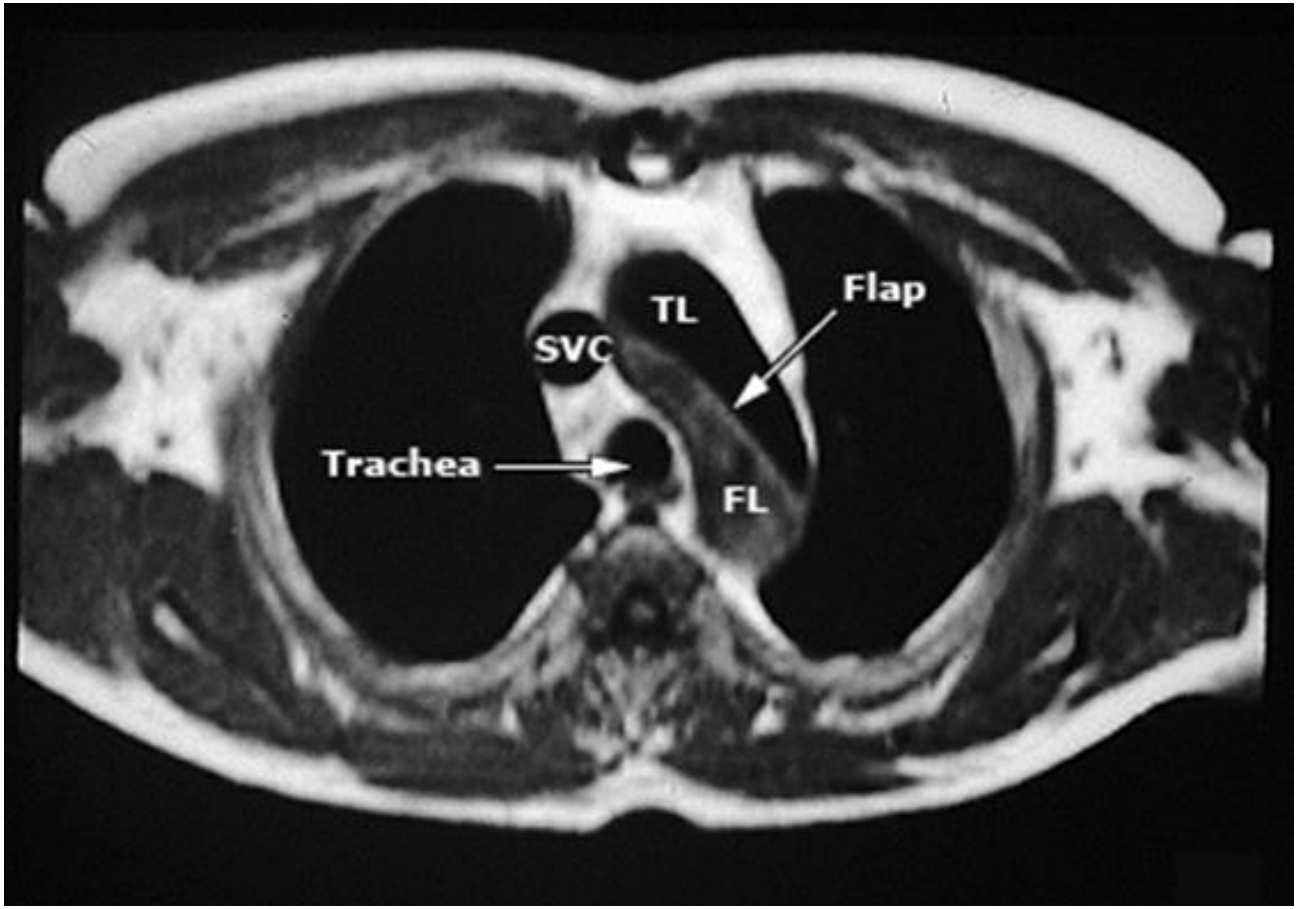



5
10

MRG

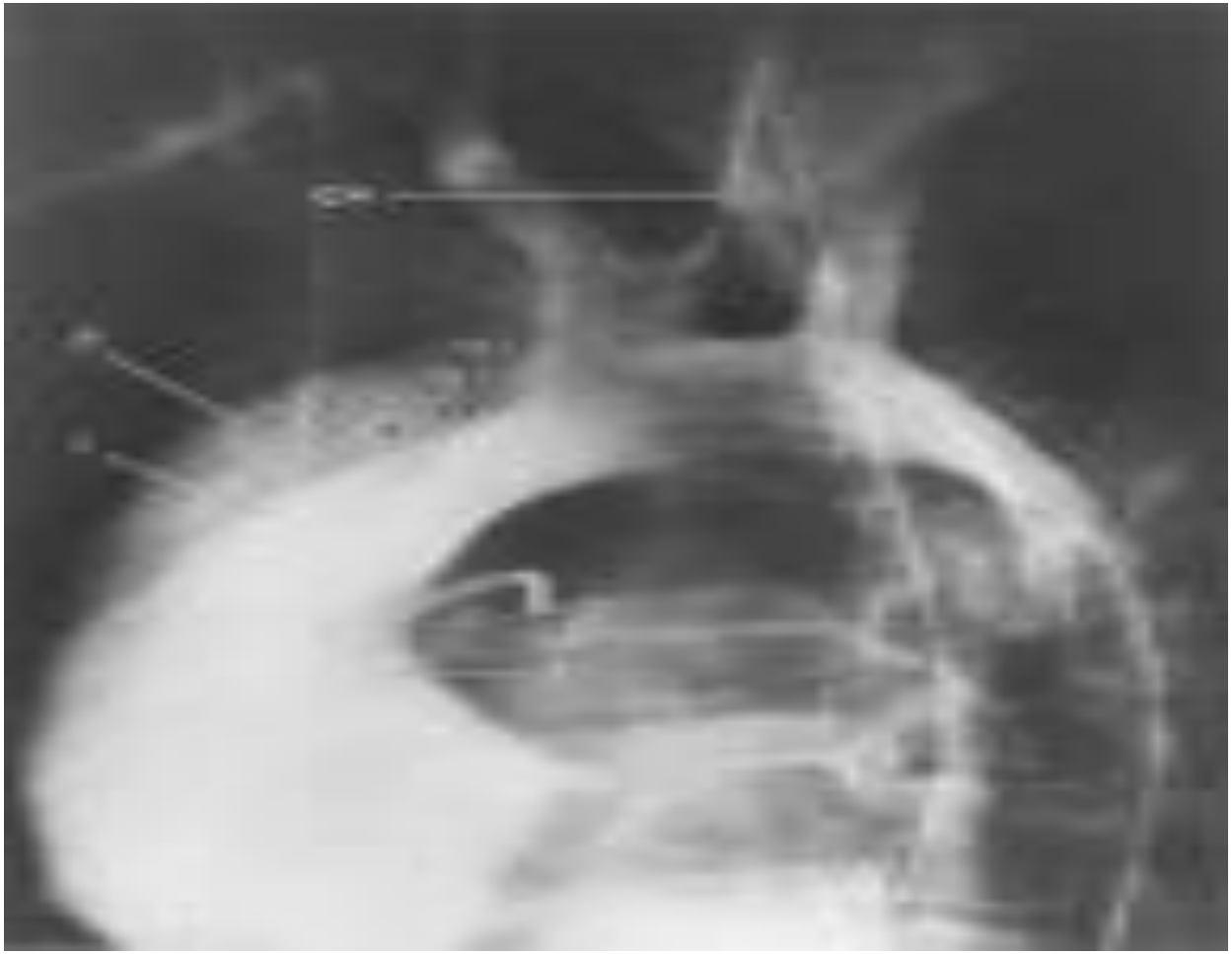
- Duyarlılık ve özgüllük yaklaşık %100
- Anatomik özellikler hakkında mükemmel bilgi
- Zaman gerektirir, monitörizasyonu önler

MR



Aortografi

- Duyarlılık %86 özgüllük %75-94
- Diseksiyon yaygınlığı, visseral damarlar, AY varsa derecesi, primer intimal yırtık yeri ve reentry yerinin görülmesi +
- İntramural hematomda faydasız
- Hemodinamik bozukluk varsa zaman kaybı



Acil Serviste Tedavi

Standart Resusitatif Manevralar

- İki geniş lümenli kateter
- Monitörizasyon
- Oksijen
- Gerekirse kan transfüzyonu
- Flepte basıncı azalmak için çoğunlukla Antihipertansife ihtiyaç var

Acil Serviste Tedavi

- B blokerler
  - Esmolol 500mcg/kg/dk bolus

    50-150mcg/kg/dk infüzyon
  - Metoprolol 2 dk'da bir 5 mg iv 3 kez

    2-5 mg/h infüzyon
  - Labetolol 20 mg iv

    40-80 mg 10dk'da bir (toplam 300mg)

    B blokerler yetersizse, Na-nitroprussid 0.3 mcg /kg /dk

TEŞEKKÜRLER