Bölüm 5

AKUT GÖĞÜS AĞRISINA RADYOLOJİK YAKLAŞIM

Çiğdem ÖZER GÖKASLAN[1]

GİRİŞ

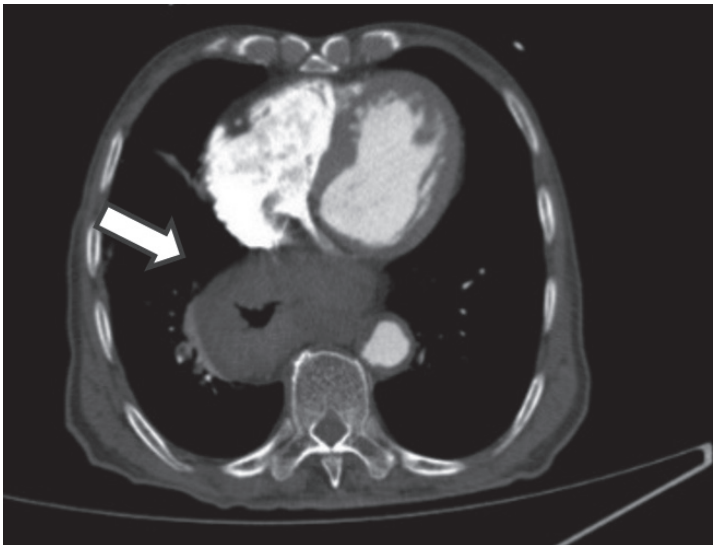
Akut göğüs ağrısı, karın ağrısından sonra acil servise en sık başvuru nedenidir. Akut göğüs ağrısı hayatı tehdit eden sebeplere bağlı olabileceği gibi, ayaktan tedavi edilebilecek nedenlere de bağlı olabilir [1].

Akut göğüs ağrısının en sık sebebi akut koroner sendrom (AKS) olup unstabil anjina pektoris (USAP), ST elevasyonlu ve elevasyonsuz miyokard enfarktüsü (MI) gibi klinik durumları kapsar. Bunun dışında aort diseksiyonu ve pulmoner emboli gibi hayatı tehdit eden vasküler nedenler de akut göğüs ağrısı sebeplerindendir. Ayrıca kardiyak ve vasküler nedenler dışında pulmoner nedenler (pnömotoraks, pnömoni gibi), gastrointestinal nedenler (özefagus rüptürü, özafajit gibi) ve muskuloskeletal nedenler (kostokondrit, kırık gibi) de ayırıcı tanıda yer almaktadır [2,3].

Hayatı tehdit eden sebeplerin hızla tanı alması ve tedavisi gerekmektedir. Bununla birlikte hayati olmayan nedenlerle başvuran hastaların da tanı alması hastanede kalış süresini ve maliyeti azaltmak açısından önemlidir. Yapılan çalışmalarda acil servise akut göğüs ağrısı ile başvuran hastaların yaklaşık % 60'ının AKS olmadığı gösterilmiştir. AKS'yi dışlamak çok büyük maliyete neden olmaktadır. Acil serviste ilk değerlendirmede AKS'lerin % 2-5'ine tanı konulamamaktadır. Tanısı konmamış AKS hastalarının yaklaşık % 25'i ölmektedir [4-7].

Acil servise başvuran göğüs ağrısının kesin tanısını koymak yalnızca klinik semptomlar ve laboratuvar bulgularına dayanarak çoğu zaman mümkün değildir. Çok kesitli bilgisayarlı tomografi (ÇKBT) dışındaki çoğu tanı yöntemi (EKG, kardiyak enzimler, efor testi, radyonüklid perfüzyon görüntüleme ve stres ekokardiyografisi) AKS'un tanısı ya da dışlanması üzerine odaklan-

[1] Dr. Öğr. Üyesi, Afyonkarahisar Sağlık Bilimleri Üniversitesi Tıp Fakültesi Radyoloji AD., ozercigdem@gmail.com



Resim 6. Göğüs ağrısı ile başvuran hastada hiatal herni (ok) ve aortada intramural trombüs izlenmekte.

KAYNAKÇA

1. McCaig LF, Nawar EW. National ambulatory medical care survey: 2004 emergency department summary. Adv Data2006;372:1–29.
2. Yeter E, Akçay M, Yüksel İ. Göğüs Ağrılı Hastaya Tanısal Yaklaşım. Turkish Medical Journal 2008, 2:54-59.
3. Theroux P, Fuster V. Acute coronary syndromes unstable angina and non-Q wave myocardial infarction. Circulation 1998;97:1195-206.
4. Goldman L, Cook EF, Johnson PA et al. Prediction of the need for intensive care in patients who come to the emergency departments withacute chest pain. N EnglJ Med1996;334:1498–1504.
5. Lee TH, Goldman L. Evaluation of the patient with acute chest pain. N Engl J Med 2000; 342:1187–1195.
6. Pope JH, Aufderheide TP, Ruthazer R et al. Missed diagnoses of acute cardiac ischemia in emergency department. N Engl J Med2000;342:1163–1170.
7. Kaul P, Newby LK, Johnson PA et al. International differences in evolution of early discharge after acute myocardial infarction. Lancet 2004;363:511–51.
8. Schussler JM, Smith ER. Sixty-four-slice computed tomographic coronary angiography: will the ‘‘triple rule out’’ change chest pain evaluation in the ED? Am J Emerg Med 2007;25:367–375.
9. Lee HY, Yoo SM, White CS. Coronary CT angiography in emergency department patients with acute chest pain: triple rule-out protocol versus dedicated coronary CT angiography. Int J Cardiovasc Imaging 2009; 25: 319-26.

10. Takakuwa KM, Halpern EJ. Evaluation of a "triple rule-out" coronary CT angiography protocol: use of 64-Section CT in low-to-moderate risk emergency department patients suspected of having acute coronary syndrome. Radiology 2008; 248: 438-46.
11. Yoo SM, Rho JY, Lee HY, Song IS, Moon JY, White CS. Current Concepts in Cardiac CT Angiography for Patients With Acute Chest Pain. Korean Circ J 2010; 40: 543-9.
12. Bastarrika G, Thilo C, Headden GF, Zwerner PL, Costello P, Schoepf UJ. Cardiac CT in the assessment of acute chest pain in the emergency department. AJR Am J Roentgenol 2009; 193: 397-409.
13. Litmanovich D, Zamboni GA, Hauser TH, Lin PJ, Clouse ME, Raptopoulos V. ECG-gated chest CT angiography with 64-MDCT and tri-phasic IV contrast administration regimen in patients with acute non-specific chest pain. Eur Radiol 2008; 18: 308-17.
14. Schertler T, Scheffel H, Frauenfelder T, Desbiolles L, Leschka S, Stolzmann P, et al. Dual-source computed tomography in patients with acute chest pain:-feasibility and image quality. Eur Radiol 2007; 17:3179-88
15. Johnson TR, Nikolaou K, Becker A, Leber AW, Rist C, Wintersperger BJ, et al. Dual-source CT for chest pain assessment. Eur Radiol 2008; 18: 773-80.
16. Gallagher MJ, Raff GL. Use of multislice CT for the evaluation of emergency room patients with chest pain: the so-called "triple rule-out". Catheter Cardio Interv 2008; 71: 92-9.
17. Husmann L, Valenta I, Gaemperli O, Adda O, Treyer V, Wyss CA, et al. Feasibility of low-dose coronary CT angiography: first experience with prospective ECG-gating. Eur Heart J 2008; 29: 191-7.
18. Sommer WH, Schenzle JC, Becker CR, Nikolaou K, Graser A, Michalski G, et al. Saving dose in triple-rule-out computed tomography examination using high-pitch dual spiral technique. Invest Radiol 2010; 45: 64-71.
19. ACC/AHA Guidelines for the management of patients with unstable angina and non-ST segment elevation myocardial infarction. J Am Coll Cardiol 2000;36:970-1062.
20. Alper F, Gülbaran M, Bayraktutan ÜG. Koroner ateroskleroz ve plakların tomografik morfolojisi: Okur, Kantarcı (eds): MDBT Koroner Anjiyografi. Aktif yayınevi, İstanbul; 2006. p. 93-9.
21. Pollack CV Jr, Gibler WB (2001) 2000 ACC/AHA guidelines for the management of patients with unstable angina and non-ST-segment elevation myocardial infarction: a practical summary for emergency physicians. Ann Emerg Med 38(3):229–240.
22. Braunwald E, Antman EM, Beasley JW et al (2002) ACC/ AHA 2002 guideline update for the management of patients with unstable angina and non-ST-segment elevation myocardial infarction—summary article: a report of the

American College of Cardiology/American Heart Association task force on practice guidelines (Committee on the management of patients with unstable angina). J Am Coll Cardiol 40(7):1366–1374.
23. Reilly BM, Evans AT, Schaider JJ et al. Impact of a clinical decision rule on hospital triage of patients with suspected acute cardiac ischemia in the emergency department. JAMA2002; 288:342–350.
24. Garcia MJ, Lessick J, Hoffmann MH; CATSCAN Study Investigators. Accuracy of 16-row multidetector computed tomography for the assessment of coronary artery stenosis. JAMA 2006; 296: 403-11.
25. Sharma RK, Voelker DJ, Sharma RK, Singh VN, Bhatt G, Moazazi M, et al. Coronary computed tomographic angiography (CCTA) in community hospitals: "current and emerging role". Vasc Health Risk Manag 2010; 6: 307-16.
26. Raff GL, Gallagher MJ, O'Neill WW et al. Diagnostic accuracy of noninvasive coronary angiography using 64-slice spiral computed tomography. J Am Coll Cardiol 2005; 46:552–557.
27. Gosalia A, Haramati LB, Sheth MP, Spindola-Franco H. CT detection of acute myocardial infarction. AJR Am J Roentgenol 2004; 182: 1563-6.
28. Dymarkowski S, Bogaert J, Ni Y. Ischemic heart disease. Bogaert, Dymarkowski, Taylor (eds): Clinical Cardiac MRI. Springer, Heidelberg; 2005.p. 173-82.
29. George RT, Arbab-Zadeh A, Miller JM, Vavere AL, Bengel FM, Lardo AC, et al. Computed tomography myocardial perfusion imaging with 320-row detector computed tomography with obstructive coronary artery disease. Circ Cardiovasc Imaging 2012; 5: 333-40.
30. Cademartiri F, La Grutta L, Malagò R, Alberghina F, Meijboom WB, Pugliese F, et al. Prevalence of anatomical variants and coronary anomalies in 543 consecutive patients studied with 64-slice CT coronary angiography. Eur Radiol 2008; 18: 781-91.
31. Van Camp SP, Bloor CM, Mueller FO, Cantu RC, Olson HG. Nontraumatic sports death in high school and college athletes. Med Sci Sports Exerc 1995;27:641-7.
32. Kim SY, Seo JB, Do KH, Heo JN, Lee JS, Song JW, et al. Coronary artery anomalies: classification and ECG-gated multi-detector row CT findings with angiographic correlation. Radiographics 2006; 26: 317-34.
33. Dodd JD, Ferencik M, Liberthson RR, Cury RC, Hoffmann U, Brady TJ, et-al. Congenital anomalies of coronary artery origin in adults: 64-MDCT appearance. AJR Am J Roentgenol 2007; 188: 138-46.
34. Schmitt R, Froehner S, Brunn J, Wagner M, Brunner H, Cherevatyy O, et al. Congenital anomalies of the coronary arteries: imaging with contrast-enhanced, multidetector computed tomography. Eur Radiol 2005;15:1110-21.
35. Karaca M, Kırılmaz A, Öncel G, Öncel D, Yılmaz H, Tamcı B, et al. Cont-

rast-enhanced 64-slice computed tomography in detection and evaluation of anomalous coronary arteries. Tohoku J Exp Med 2007;213:249-59.
36. Schertler T, Frauenfelder T, Stolzmann P, Scheffel H, Desbiolles L, Marincek B, et al. Triple rule-out CT in patients with suspicion of acute pulmonary embolism: findings and accuracy. Acad Radiol 2009; 16: 708-17.
37. Browne AM, Cronin CG, English C et al: Unsuspected pulmonary emboli in oncology patients undergoing routine computed tomography imaging. J Thorac Oncol, 2010; 5(6): 798–803.
38. Cham MD, Yankelevitz DF, Henschke CI. Thromboembolic disease detection at indirect CT venography versus CT pulmonary angiography. Radiology 2005; 234: 591-4.
39. Coche EE, Müller NL, Kim KI, Wiggs BR, Mayo JR. Acute pulmonary embolism: ancillary findings at spiral CT. Radiology 1998; 207: 753-8.
40. Erkuş ME, Demirbağ R.Highlights from the 2014 European Society of Cardiology Guidelines for Aortic Diseases. Turk Kardiyol Dern Ars. 2015 Jan;43(1):12-7.
41. Nienaber CA, Eagle KA. Aortic Dissection: New Frontiers in Diagnosis and Management Part I:From Etiology to Diagnostic Strategies. Circulation 2003; 108: 628-35.
42. Ledbetter S, Stuk JL, Kaufman JA. Helical (spiral) CT in the evaluation of emergent thoracic aortic syndromes. Traumatic aortic rupture, aortic aneurysm, aortic dissection, ıntramural hematoma, and penetrating atherosclerotic ulcer. Radiol Clin North Am. 1999; 37: 575-89.
43. Erbel R, Alfonso F, Boileau C, Dirsch O, Eber B, Haverich A, et al. Diagnosis and management of aortic dissection. Eur Heart J 2001;22:1642-81.
44. Ledbetter S, Stuk JL, Kaufman JA. Helical (spiral) CT in the evaluation of emergent thoracic aortic syndromes. Traumatic aortic rupture, aortic aneurysm, aortic dissection, ıntramural hematoma, and penetrating atherosclerotic ulcer. Radiol Clin North Am 1999; 37: 575-89.
45. Yapıcı F, Sokullu O. Acute Aortic Syndromes: Intramural Haematoma, Penetrating Aortic Ulcer, Aortic Transection.Turkiye Klinikleri J Cardiovasc Surg-Special Topics 2012;4(1):47-57 .
46. Litmanovich D, Bankier AA, Cantin L, Raptopoulos V, Boiselle PM. CT and MRI in Diseases of the Aorta. Am J Roentgenol 2009; 193: 928-40.
47. Hillen TJ, Wessell DE. Multidetector CT scan in the evaluation of chest pain of nontraumatic musculoskeletal origin. Thorac Surg Clin 2010; 20: 167-73.