

11. BÖLÜM

KARDİYOJENİK ŞOKTA PERKÜTAN KORONER GİRİŞİM

Berat UĞUZ¹

GİRİŞ

Kardiyojenik şok akut miyokard enfarktüsü (AMI) geçiren olguların hastane içi mortalite nedenlerinin başında gelmektedir. AMI'lı hastaların %5-10'unu komplike hâle getirir. Konservatif tedavi ile, kardiyojenik şok hastalarının %70-80'i bu hastalığa yenik düşmektedir (1). Son yirmi yılda tedavideki ilerleme ile birlikte mortalite oranlarında istikrarlı bir azalma olmasına rağmen, kardiyojenik şok hâlâ %50'ye yaklaşan hastane içi mortalite oranları ile önde gelen ölüm nedeni olmaya devam etmektedir (2,3). Kardiyojenik şok hastalarının prognozunu iyileştirmek için büyük çabalara ihtiyaç vardır ve araştırmalar yoğunlaştırılmalıdır.

TANIM VE TEŞHİS

Kardiyojenik şok, kalbin doku perfüzyonunu sağlamaya yetecek düzeyde fonksiyon göstermediği, akut veya kronik olarak gelişen, en sık olarak AMI sonrasında izlenen major ve fatal bir komplikasyondur. Hipotansiyon, akciğer konjesyonu, bozulmuş doku ve hayati organ perfüzyonu ile karakterizedir. Genel olarak kardiyojenik şok klinik olarak tanımlanır. Bununla birlikte, özellikle klinik çalışmalarda, sol ventrikül (LV) dolum basınçlarının değerlendirilmesi ve kardiyak indeks gibi ek hemodinamik parametreler de kardiyojenik şoku tanımlamak için kullanılmıştır (4,5).

¹ Kardiyoloji Uzmanı, Bursa Şehir Hastanesi, beratuguz33@hotmail.com

KAYNAKÇA

1. Subban V, Gnanaraj A, Gomathi B, et al. (2012). Percutaneous coronary intervention in cardiogenic shock complicating acute ST-elevation myocardial infarction—a single centre experience. *Indian heart journal*, 64(2), 152-158.
2. Goldberg RJ, Spencer FA, Gore JM, et al. (2009). Thirty year trends (1975-2005) in the magnitude, management, and hospital death rates associated with cardiogenic shock in patients with acute myocardial infarction: A population-based perspective. *Circulation*, 119(9), 1211.
3. Thiele, H. and G. Schuler, *Cardiogenic shock: to pump or not to pump?* 2009, Oxford University Press.
4. Alexander JH, Reynolds HR, Stebbins AL, et al. (2007). Effect of tilarginine acetate in patients with acute myocardial infarction and cardiogenic shock: the TRIUMPH randomized controlled trial. *Jama*, 297(15), 1657-1666.
5. Hochman JS, Sleeper LA, Webb JG, et al. (1999). Early revascularization in acute myocardial infarction complicated by cardiogenic shock. *New England Journal of Medicine*, 341(9), 625-634.
6. Thiele, H., Lauer, B., Hambrecht, R, et al. (2001). Reversal of cardiogenic shock by percutaneous left atrial-to-femoral arterial bypass assistance. *Circulation*, 104(24), 2917-2922.
7. Thiele, H., Sick, P., Boudriot, E., et al. (2005). Randomized comparison of intra-aortic balloon support with a percutaneous left ventricular assist device in patients with revascularized acute myocardial infarction complicated by cardiogenic shock. *European heart journal*, 26(13), 1276-1283.
8. Hochman, J. S., Buller, C. E., Sleeper, et al. (2000). Cardiogenic shock complicating acute myocardial infarction—etiologies, management and outcome: a report from the SHOCK Trial Registry. *Journal of the American College of Cardiology*, 36(3 Supplement 1), 1063-1070.
9. Gianni, M., Dentali, F., Grandi, A. M., et al. (2006). Apical ballooning syndrome or takotsubo cardiomyopathy: a systematic review. *European heart journal*, 27(13), 1523-1529.
10. Hochman, J., *Cardiogenic shock: Annual Scientific Sessions*. Dallas, TX: American Heart Association, 1998.
11. Hochman, J.S., *Cardiogenic shock complicating acute myocardial infarction: expanding the paradigm*. *Circulation*, 2003. 107(24): p. 2998-3002.
12. Hasdai, D., Holmes Jr, D. R., Califf, R. M., et al. (1999). Cardiogenic shock complicating acute myocardial infarction: predictors of death. *American heart journal*, 138(1), 21-31.
13. Fincke, R., Hochman, J. S., Lowe, A. M., et al. (2004). Cardiac power is the strongest hemodynamic correlate of mortality in cardiogenic shock: a report from the SHOCK trial registry. *Journal of the American College of Cardiology*, 44(2), 340-348.
14. Dumas, F., Cariou, A., Manzo-Silberman, S., et al. (2010). Immediate percutaneous coronary intervention is associated with better survival after out-of-hospital cardiac arrest: insights from the PROCAT (Parisian Region Out of hospital Cardiac Arrest) registry. *Circulation: Cardiovascular Interventions*, 3(3), 200-207.
15. Vis, M. M., Engström, A. E., Sjaauw, K. D., et al. (2010). Plasma glucose and not hemoglobin or renal function predicts mortality in patients with STEMI complicated with cardiogenic shock. *Journal of Cardiovascular Medicine*, 11(11), 827-831.
16. Vis, M. M., VD Schaaf, R. J., Sjaauw, K. D., et al. (2009). Creatinine clearance is independently associated with one year mortality in a primary PCI cohort with cardiogenic shock. *Acute cardiac care*, 11(2), 107-112.
17. Wong, S. C., Sanborn, T., Sleeper, L. A., et al. (2000). Angiographic findings and clinical correlates in patients with cardiogenic shock complicating acute myocardial infarction: a report from the SHOCK Trial Registry. *Journal of the American College of Cardiology*, 36(3 Supplement 1), 1077-1083.

18. Hochman, J. S., Sleeper, L. A., Webb, J. G., et al. (2006). Early revascularization and long-term survival in cardiogenic shock complicating acute myocardial infarction. *Jama*, 295(21), 2511-2515.
19. Zahn, R., Schiele, R., Schneider, S., et al. (2001). Primary angioplasty versus intravenous thrombolysis in acute myocardial infarction: can we define subgroups of patients benefiting most from primary angioplasty? Results from the pooled data of the Maximal Individual Therapy in Acute Myocardial Infarction Registry and the Myocardial Infarction Registry. *Journal of the American College of Cardiology*, 37(7), 1827-1835.
20. Dr. Bahadır ALAN, D.F.Ö., *Kardiyojenik Sok. Türkiye Klinikleri J Surg Med Sci*, 2007. 3(46): p. 87-94.
21. Berger, P. B., Holmes Jr, D. R., Stebbins, A. L., et al. (1997). Impact of an aggressive invasive catheterization and revascularization strategy on mortality in patients with cardiogenic shock in the Global Utilization of Streptokinase and Tissue Plasminogen Activator for Occluded Coronary Arteries (GUSTO-I) trial: an observational study. *Circulation*, 96(1), 122-127.
22. Jeger, R. V., Radovanovic, D., Hunziker, P. R., et al. (2008). Ten-year trends in the incidence and treatment of cardiogenic shock. *Annals of internal medicine*, 149(9), 618-626.
23. Eitel, I., et al. Prognostic significance and determinants of myocardial salvage assessed by cardiovascular magnetic resonance in acute reperfused myocardial infarction. *Journal of the American College of Cardiology*, 2010. 55(22): p. 2470-2479.
24. Eitel, I., Desch, S., Fuernau, G., et al. (2010). Prognostic significance and determinants of myocardial salvage assessed by cardiovascular magnetic resonance in acute reperfused myocardial infarction. *Journal of the American College of Cardiology*, 55(22), 2470-2479.
25. Neumann, F. J., Sousa-Uva, M., Ahlsson, A., et al. (2019). 2018 ESC/EACTS guidelines on myocardial revascularization. *European heart journal*, 40(2), 87-165.
26. Ibanez, B., James, S., Agewall, S., et al. (2018). 2017 ESC Guidelines for the management of acute myocardial infarction in patients presenting with ST-segment elevation: The Task Force for the management of acute myocardial infarction in patients presenting with ST-segment elevation of the European Society of Cardiology (ESC). *European heart journal*, 39(2), 119-177.
27. Sanborn, T. A., Sleeper, L. A., Webb, J. G., et al. (2003). Correlates of one-year survival in patients with cardiogenic shock complicating acute myocardial infarction: angiographic findings from the SHOCK trial. *Journal of the American College of Cardiology*, 42(8), 1373-1379.
28. Thiele, H., Ohman, E. M., de Waha-Thiele, S., et al. (2019). Management of cardiogenic shock complicating myocardial infarction: an update 2019. *European Heart Journal*, 40(32), 2671-2683.
29. European Association for Percutaneous Cardiovascular Interventions. (2010). The task force on myocardial revascularization of the European Society of Cardiology (ESC) and the European Association for Cardio-Thoracic Surgery (EACTS). *Eur Heart J*, 31, 2501-2555.
30. Kastrati, A., Dibra, A., Spaulding, C., et al. (2007). Meta-analysis of randomized trials on drug-eluting stents vs. bare-metal stents in patients with acute myocardial infarction. *European heart journal*, 28(22), 2706-2713.
31. Stone, G. W., Lansky, A. J., Pocock, S. J., et al. (2009). Paclitaxel-eluting stents versus bare-metal stents in acute myocardial infarction. *New England Journal of Medicine*, 360(19), 1946-1959.
32. De Luca, G., Stone, G. W., Suryapranata, H., et al. (2009). Efficacy and safety of drug-eluting stents in ST-segment elevation myocardial infarction: a meta-analysis of randomized trials. *International journal of cardiology*, 133(2), 213-222.
33. Ledwoch, J., Fuernau, G., Desch, S., et al. (2017). Drug-eluting stents versus bare-metal stents in acute myocardial infarction with cardiogenic shock. *Heart*, 103(15), 1177-1184.

34. Burzotta, F., De Vita, M., Gu, Y. L., et al. (2009). Clinical impact of thrombectomy in acute ST-elevation myocardial infarction: an individual patient-data pooled analysis of 11 trials. *European heart journal*, 30(18), 2193-2203.
35. De Luca, G., Dudek, D., Sardella, G., et al. (2008). Adjunctive manual thrombectomy improves myocardial perfusion and mortality in patients undergoing primary percutaneous coronary intervention for ST-elevation myocardial infarction: a meta-analysis of randomized trials. *European heart journal*, 29(24), 3002-3010.
36. Fröbert, O., Lagerqvist, B., Olivecrona, G. K., et al. (2013). Thrombus aspiration during ST-segment elevation myocardial infarction. *N engl j med*, 369, 1587-1597.
37. Jolly, S. S., Cairns, J. A., Yusuf, S., et al. (2015). Randomized trial of primary PCI with or without routine manual thrombectomy. *New England Journal of Medicine*, 372(15), 1389-1398.
38. Jolly, S. S., James, S., Džavík, V., et al. (2017). Thrombus aspiration in ST-segment-elevation myocardial infarction: an individual patient meta-analysis: Thrombectomy Trialists Collaboration. *Circulation*, 135(2), 143-152.
39. Parodi, G., Xanthopoulos, I., Bellandi, B., et al. (2015). Ticagrelor crushed tablets administration in STEMI patients: the MOJITO study. *Journal of the American College of Cardiology*, 65(5), 511-512.
40. De Luca, G., Navarese, E., Marino, P, et al. (2009). Risk profile and benefits from Gp IIb/IIIa inhibitors among patients with ST-segment elevation myocardial infarction treated with primary angioplasty: a meta-regression analysis of randomized trials. *European heart journal*, 30(22), 2705-2713.
41. Monsieurs, K. G., Nolan, J. P., Bossaert, L. L., et al. (2015). European resuscitation council guidelines for resuscitation 2015: section 1. Executive summary. *Resuscitation*, 95, 1-80.
42. Fuernau, G., Beck, J., Desch, S., et a. (2019). Mild hypothermia in cardiogenic shock complicating myocardial infarction: randomized SHOCK-COOL trial. *Circulation*, 139(4), 448-457.
43. Lee, W. Y., Cardon, L., Slodki, S. J et al. (1962). Perforation of infarcted interventricular septum: Report of a case with prolonged survival, diagnosed ante mortem by cardiac catheterization, and review of the literature. *Archives of internal medicine*, 109(6), 731-741.
44. Ari, H., Melek, M., Ari, S., et al. (2015). Percutaneous closure of post-myocardial infarction ventricular septal rupture in patients with ventricular septal rupture and apical thrombus: first case in literature. *Int J Cardiol*, 182, 487-490.
45. Thompson, C. R., Buller, C. E., Sleeper, L. A., et al. (2000). Cardiogenic shock due to acute severe mitral regurgitation complicating acute myocardial infarction: a report from the SHOCK Trial Registry. *Journal of the American College of Cardiology*, 36(3 Supplement 1), 1104-1109.
46. Estévez-Loureiro, R., Arzamendi, D., Freixa, X., et al. (2015). Percutaneous mitral valve repair for acute mitral regurgitation after an acute myocardial infarction. *Journal of the American College of Cardiology*, 66(1), 91-92.
47. Overgaard, C. B., Dzavík, V. (2008). Inotropes and vasopressors: review of physiology and clinical use in cardiovascular disease. *Circulation*, 118(10), 1047-1056.
48. De Luca, L., Colucci, W. S., Nieminen, M. S., et al. (2006). Evidence-based use of levosimendan in different clinical settings. *European heart journal*, 27(16), 1908-1920.