

BÖLÜM 25



KORONER ARTER BYPASS CERRAHİSİ

Şenel ALTUN¹

GİRİŞ

Koroner arter bypass cerrahisi kalp cerrahisi literatürlerinde en sık yapılan operasyon olarak yer almaktadır. Günümüzde gelişen teknoloji sayesinde erken tanı ve medikal tedavinin yaygınlaşması mümkün olmuş, gelişen revaskülarizasyon teknikleri sayesinde koroner arter hastalığı (KAH) ile ilişkili mortalite oranları azalmıştır (1). Koroner arter baypas greft cerrahisi (KABC), başta çok damar hastaları olmak üzere birçok hastada ‘revaskülarizasyonun altın standartı’ olma özelliğini devam ettirmektedir (2). KABC ile perkütan revaskülarizasyon tekniklerini karşılaştırın büyük çalışmaların yayınlanması takiben Avrupa Kardiyoloji Derneği (ESC) (3) ve American Kalp Cemiyeti (AHA) (4) kılavuzlarını yenilemişlerdir.

KORONER ARTER BYPAS CERRAHİSİ ENDİKASYONLARI

Hastaya uygulanacak revaskülarizasyon yöntemi kararı kardiyologlar ve cerrahlardan oluşan bir ekip tarafından verilmelidir (3,4). Ekip karar verirken Göğüs Cerrahisi Derneği kılavuzlarını ve

SYNTAX skorlarını dikkate almalıdır. Çok damar hastalarında KABC ile paklitaksel salınımlı stenti karşılaştırın SYNTAX çalışmasında orta-yüksek skorlu olan hastalarda KABC sınıf 1 öneri olarak yer almaktadır (4,5). Çalışmanın dört yıllık sonuçları bu hasta grubunda peruktan koroner girişim (PKG) ‘in KABC e oranla daha yüksek mortalite ile birlikte olduğunu göstermiş, çok damar hastalarında KABC’nin üstünlüğü vurgulanmıştır (6). Bununla birlikte yüksek ameliyat mortalitesine sahip olan, skoru düşük olan hasta grupları için PKG’nin cerrahiye alternatif olabileceği hatırlanmalıdır (5,7).

Cerrahi girişimin en önemli amacı miyokardiyal iskeminin ve günlük hayatı kısıtlayıcı angina'nın giderilmesidir. Koroner arter baypas cerrahisi endikasyonları şunlardır :

1. Medikal veya invaziv tedavi ile giderilemeye anjina:
2. Kararsız angina durumu
3. Sol ana koroner hastalığı (>%50): Geniş bir miyokard hasarına neden olma ihtiyalinden dolayı sol ana koroner darlıklar çok önemlidir.

¹ Op. Dr., Bahçelievler Devlet Hastanesi, Kalp Damar Cerrahisi Kliniği, altunsenel@gmail.com



KAYNAKLAR

1. Ford ES, Capewell S. Proportion of the decline in cardiovascular mortality disease due to prevention versus treatment: public health versus clinical care. *Annu Rev Public Health* 2011;32:5-22.
2. ElBardissi AW, Aranki SF, Sheng S, O'Brien SM, Greenberg CC, Gammie JS. Trends in isolated coronary artery bypass grafting: an analysis of the Society of Thoracic Surgeons adult cardiac surgery database. *J Thorac Cardiovasc Surg* 2012;143:273-81.
3. Hamm CW, Bassand JP, Agewall S, Bax J, Boersma E, Bueno H, et al. ESC Guidelines for the management of acute coronary syndromes in patients presenting without persistent ST-segment elevation: The Task Force for the management of acute coronary syndromes (ACS) in patients presenting without persistent ST-segment elevation of the European Society of Cardiology (ESC). *Eur Heart J* 2011;32:2999-3054.
4. Hillis LD, Smith PK, Anderson JL, Bittl JA, Bridges CR, Byrne JG, et al. 2011 ACCF/AHA Guideline for Coronary Artery Bypass Graft Surgery. A report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines. Developed in collaboration with the American Association for Thoracic Surgery, Society of Cardiovascular Anesthesiologists, and Society of Thoracic Surgeons. *J Am Coll Cardiol* 2011;58:e123-210.
5. Serruys PW, Morice MC, Kappetein AP, Colombo A, Holmes DR, Mack MJ, et al. Percutaneous coronary intervention versus coronary-artery bypass grafting for severe coronary artery disease. *N Engl J Med* 2009;360:961-72. doi: 10.1056/ NEJMoa0804626.
6. Holmes DR, Cannon LA, Stahle E, Morice MC, Mack MJ, Feldman TE, et al. Four-year follow up of the SYNTAX trial. Optimal revascularization strategy in patients with three-vessel disease and/or left main disease. Presented at the Transcatheter Cardiovascular Therapeutics 23rd Annual Scientific Symposium; November 7-11, 2011, San Francisco, California, USA.
7. Naik H, White AJ, Chakravarty T, Forrester J, Fontana G, Kar S, et al. A meta-analysis of 3,773 patients treated with percutaneous coronary intervention or surgery for unprotected left main coronary artery stenosis. *JACC Cardiovasc Interv* 2009;2:739-47.
8. Kjaergard HK, Nielsen PH, Andreasen JJ, Steinbrüchel D, Andersen LI, Rasmussen K, et al. Coronary artery bypass grafting within the first year after treatment of large acute myocardial infarctions with angioplasty or fibrinolysis. *Scand Cardiovasc J* 2006;40:25-8.
9. Lee JH, Murrell HK, Strony J, Cmolik B, Nair R, Lesnfsky E, et al. Risk analysis of coronary bypass surgery after acute myocardial infarction. *Surgery* 1997;122:675-80.
10. Alexiou K, Kappert U, Staroske A, Joskowiak D, Wilbring M, Matschke K, et al. Coronary surgery for acute coronary syndrome: which determinants of outcome remain? *Clin Res Cardiol* 2008;97:601-8.
11. Walsh SR, Bhutta H, Tang TY, Nunn DL, Armon MP, Clarke JM, et al. Anaesthetic specialisation leads to improved early and medium-term survival following major vascular surgery. *Eur J Vasc Endovasc Surg* 2010;39:719-25.
12. Motallebzadeh R, Bland JM, Markus HS, Kaski JC, Jahangiri M. Neurocognitive function and cerebral emboli: randomized study of on-pump versus off-pump coronary artery bypass surgery. *Ann Thorac Surg* 2007;83:475-82.
13. Shroyer AL, Grover FL, Hattler B, Collins JF, McDonald GO, Kozora E, et al. On-pump versus off-pump coronary artery bypass surgery. *N Engl J Med* 2009;361:1827-37.
14. Hannan EL, Wu C, Smith CR, Higgins RS, Carlson RE, Culliford AT, et al. Off-pump versus on-pump coronary artery bypass graft surgery: differences in short-term outcomes and in long-term mortality and need for subsequent revascularization. *Circulation* 2007;116:1145-52.
15. Møller CH, Penninga L, Wetterslev J, Steinbrüchel DA, Gluud C. Off-pump versus on-pump coronary artery bypass grafting for ischaemic heart disease. *Cochrane Database Syst Rev* 2012;3:CD007224.
16. Misfeld M, Potger K, Ross DE, McMillan D, Brady PW, Marshman D, et al. "Anaortic" off-pump coronary artery bypass grafting significantly reduces neurological complications compared to off-pump and conventional on-pump surgery with aortic manipulation. *Thorac Cardiovasc Surg* 2010;58:408-14.
17. Sharma GV, Khuri SF, Josa M, Folland ED, Parisi AF. The effect of antiplatelet therapy on saphenous vein coronary artery bypass graft patency. *Circulation* 1983;68:II218-21.



18. Society of Thoracic Surgeons Blood Conservation Guideline Task Force, Ferraris VA, Brown JR, Despotis GJ, Hammon JW, Reece TB, Saha SP, et al. 2011 update to the Society of Thoracic Surgeons and the Society of Cardiovascular Anesthesiologists blood conservation clinical practice guidelines. *Ann Thorac Surg* 2011;91:944-82.
19. Kulik A, Brookhart MA, Levin R, Ruel M, Solomon DH, Choudhry NK. Impact of statin use on outcomes after coronary artery bypass graft surgery. *Circulation* 2008;118:1785-92.
20. European Heart Rhythm Association; European Association for Cardio-Thoracic Surgery, Camm AJ, Kirchhof P, Lip GY, Schotten U, Savelieva I, Ernst S, et al. Guidelines for the management of atrial fibrillation: the Task Force for the Management of Atrial Fibrillation of the European Society of Cardiology (ESC). *Eur Heart J* 2010;31:2369-429.
21. Resano FG, Kapetanakis EI, Hill PC, Haile E, Corso PJ. Clinical outcomes of low-risk patients undergoing beating-heart surgery with or without pulmonary artery catheterization. *J Cardiothorac Vasc Anesth* 2006;20:300-6.
22. Okur FF, Uyar IS, Evrengul H, Sahin V, Akpinar B, Abacilar F, et al. Results of coronary artery bypass grafting with coronary endarterectomy. *Turk Gogus Kalp Dama* 2012;20:1-7.
23. Alderman EL, Fisher LD, Litwin P, Kaiser GC, Myers WO, Maynard C, et al. Results of coronary artery surgery in patients with poor left ventricular function (CASS). *Circulation* 1983;68:785-95.
24. Velazquez EJ, Lee KL, Deja MA, Jain A, Sopko G, Marchenko A, et al. Coronary-artery bypass surgery in patients with left ventricular dysfunction. *N Engl J Med* 2011;364:1607-16.
25. Bonow RO, Maurer G, Lee KL, Holly TA, Binkley PF, Desvigne-Nickens P, et al. Myocardial viability and survival in ischemic left ventricular dysfunction. *N Engl J Med* 2011;364:1617-25.
26. Allman KC, Shaw LJ, Hachamovitch R, Udelson JE. Myocardial viability testing and impact of revascularization on prognosis in patients with coronary artery disease and left ventricular dysfunction: a meta-analysis. *J Am Coll Cardiol* 2002;39:1151-8.
27. Shahian DM, O'Brien SM, Sheng S, Grover FL, Mayer JE, Jacobs JP, et al. Predictors of long-term survival after coronary artery bypass grafting surgery: results from the Society of Thoracic Surgeons Adult Cardiac Surgery Database (the ASCERT study). *Circulation* 2012;125:1491-500.
28. BARI 2D Study Group, Frye RL, August P, Brooks MM, Hardison RM, Kelsey SF, et al. A randomized trial of therapies for type 2 diabetes and coronary artery disease. *N Engl J Med* 2009;360:2503-15.
29. Kapur A, Hall RJ, Malik IS, Qureshi AC, Butts J, de Belder M, et al. Randomized comparison of percutaneous coronary intervention with coronary artery bypass grafting in diabetic patients. 1-year results of the CARDia (Coronary Artery Revascularization in Diabetes) trial. *J Am Coll Cardiol* 2010;55:432-40.
30. Farkouh ME, Domanski M, Sleeper LA, Siami FS, Dangas G, Mack M, et al. Strategies for multivessel revascularization in patients with diabetes. *N Engl J Med* 2012;367:2375-84.