

## 34. Bölüm

# KALP YETERSİZLİĞİNDE DİYET

Aliye KUYUMCU<sup>1</sup>

Kalp yetersizliği (KY), günümüzde yaygınlığı gittikçe artan ve tüm dünyada hastaneye yatış, morbidite ve mortalitenin önde gelen nedenleri arasında yer alan önemli bir halk sağlığı sorunudur. Kalp yetersizliğine sahip kişilerde, sağlığı korumak, yaşam sürelerini uzatmak ve yaşam kalitesini sürdürmek için stratejiler geliştirmeye, giderek daha fazla ihtiyaç duyulmaktadır.<sup>(1)</sup>

Kalp yetmezliği ile ilgili son yıllarda yapılan araştırmalar, hastalığın patofizyolojik anlayışında büyük ilerlemelere yol açmıştır. Bu sendrom artık önemli komorbiditeleri (anemi, insülin direnci, otonomik dengesizlik veya kardiyak kaşeksi gibi) olan çok sistemli bir hastalık olarak kabul edilmektedir.<sup>(2)</sup> Tıbbi gelişmeler, kalp yetmezliği hastalarının hayatta kalma oranlarını artırmıştır, ancak mortalite oranları hala yüksektir. Bu nedenle, uygulanabilir ve uygun maliyetli müdahaleler, KY'yi önlemek ve tedavi etmek için çok önemlidir.<sup>(3)</sup>

Beslenmeye bağlı faktörlerinin kalp yetmezliği insidansını etkilediğine dair giderek artan yeni veriler ortaya çıkmaktadır. Kardiyovasküler hastalık şiddeti ile ilgili beslenme faktörlerinin kabul edilen önemine rağmen, diyet alımı ve KY ile ilgili şaşırtıcı derecede az insan müdahalesi araştırması vardır<sup>(4-6)</sup>. Sınırlı araştırmaya rağmen, bes-

lenme modifikasyonunun, KY'nin birçok yönünü hızlı ve derinden etkileyebileceğine dair kanıtlar sunmaktadır.<sup>(3,7)</sup> Ayrıca multidisipliner bir ekiple (doktor, diyetisyen, psikoloğun dahil olduğu) takip edilen KY programlarının, hastaneye kabulü azalttığı ve klinik sonuçları iyileştirdiği bildirilmiştir.<sup>(4)</sup>

### KALP YETERSİZLİĞİNDE BESLENME DURUMUNUN DEĞERLENDİRİLMESİ

Beslenme durumunun değerlendirilmesi, malnütrisyon varlığını, riskini ve derecesini belirleyerek, beslenmenin hastalık üzerindeki etkinliğini de ölçmeyi hedeflemektedir. Dünya çapında kabul görmüş malnütrisyon tanımı veya beslenme değerlendirmesi için altın standartta bir metodoloji bulunmamaktadır. Ancak genel olarak yetersiz beslenme/malnütrisyon, anabolik-katabolik metabolizmanın dengesizliğine ve protein-enerji yetersiz beslenmesine işaret etmektedir.<sup>(8)</sup> Toplumlarda malnütrisyon, mortalite açısından ciddi bir risk oluşturmakla beraber, KY popülasyonunda yetersiz beslenme sıklığı henüz tam olarak açığa kavuşmamıştır. KY'de malnütrisyon insidansı (hastanın genel durumu, ayaktan veya hastanede yatış takipli olması, hastalığın ko-

<sup>1</sup> Doktor Öğretim Üyesi, Süleyman Demirel Üniversitesi Sağlık Bilimleri Fakültesi Beslenme ve Diyet Bölümü, aliyekuyumcu@sdu.edu.tr

dekompanasyon ataklarından kaçınabilir ve hastaneyeye yatış ihtiyacını azaltabilirler.

## KAYNAKLAR

1. Abshire M, Xu J, Baptiste D, et al. Nutritional Interventions in Heart Failure: A Systematic Review of the Literature. *J Card Fail*. 2015;21:989-999.
2. Sandek A, Doehner W, Anker SD, et al. Nutrition in heart failure: an update. *Curr Opin Clin Nutr Metab Care*. 2009;12:384-391.
3. Kerley CP. Nutritional Interventions in Heart Failure: Challenges and Opportunities. *Curr Heart Fail Rep*. 2018;15:131-140.
4. Arcand JA, Brazel S, Joliffe C, et al. Education by a dietitian in patients with heart failure results in improved adherence with a sodium-restricted diet: a randomized trial. *Am Heart J*. 2005;150:716.
5. Paterna S, Gaspare P, Fasullo S, et al. Normal-sodium diet compared with low-sodium diet in compensated congestive heart failure: is sodium an old enemy or a new friend? *Clin Sci (Lond)*. 2008;114:221-230.
6. Welsh D, Lennie TA, Marcinek R, et al. Low-sodium diet self-management intervention in heart failure: pilot study results. *Eur J Cardiovasc Nurs*. 2013;12:87-95.
7. Ershow AG, Costello RB. Dietary guidance in heart failure: a perspective on needs for prevention and management. *Heart Fail Rev*. 2006;11:7-12.
8. Foley NC, Salter KL, Robertson J, et al. Which reported estimate of the prevalence of malnutrition after stroke is valid? *Stroke*. 2009;40:e66-74.
9. Kalantar-Zadeh K, Anker SD, Horwich TB, et al. Nutritional and anti-inflammatory interventions in chronic heart failure. *Am J Cardiol*. 2008;101:89e-103e.
10. Berkowitz D, Groll MN, Likoff W. Malabsorption as a complication of congestive heart failure. *Am J Cardiol*. 1963;11:43-47.
11. Pekcan G. "Beslenme durumunun saptanması". *Diyet El Kitabı*. Hatipoğlu Yayınevi. Ankara. 2008:67-141.
12. Nuttall FQ. Body mass index: obesity, BMI, and health: a critical review. *Nutr Today*. 2015;50:117.
13. Oreopoulos A, Padwal R, Kalantar-Zadeh K, et al. Body mass index and mortality in heart failure: a meta-analysis. *Am Heart J*. 2008;156:13-22.
14. Sargento L, Longo S, Lousada N, et al. The importance of assessing nutritional status in elderly patients with heart failure. *Curr Heart Fail Rep*. 2014;11:220-226.
15. Stratton RJ, Hackston A, Longmore D, et al. Malnutrition in hospital outpatients and inpatients: prevalence, concurrent validity and ease of use of the 'malnutrition universal screening tool' ('MUST') for adults. *Br J Nutr*. 2004;92:799-808.
16. Yamauti AK, Ochiai ME, Bifulco PS, et al. Subjective global assessment of nutritional status in cardiac patients. *Arq Bras Cardiol*. 2006;87:772.
17. Kondrup J, Rasmussen HH, Hamberg O, et al. Nutritional risk screening (NRS 2002): a new method based on an analysis of controlled clinical trials. *Clin Nutr*. 2003;22:321-336.
18. Vellas B, Guigoz Y, Garry PJ, et al. The Mini Nutritional Assessment (MNA) and its use in grading the nutritional state of elderly patients. *Nutrition*. 1999;15:116-122.
19. Sargento L, Longo S, Lousada N, et al. The importance of assessing nutritional status in elderly patients with heart failure. *Curr Heart Fail Rep*. 2014;11:220-226.
20. Abshire M, Xu J, Baptiste D, et al. Nutritional Interventions in Heart Failure: A Systematic Review of the Literature. *J Card Fail*. 2015;21:989-999.
21. Djoussé L, Driver JA, Gaziano JMJJ. Relation between modifiable lifestyle factors and lifetime risk of heart failure. *JAMA*. 2009;302:394-400.
22. Folsom AR, Yamagishi K, Hozawa A, et al. Absolute and attributable risks of heart failure incidence in relation to optimal risk factors. *Circ Heart Fail*. 2009;2:11-17.
23. Avery CL, Loehr LR, Baggett C, et al. The population burden of heart failure attributable to modifiable risk factors: the ARIC (Atherosclerosis Risk in Communities) study. *J Am Coll Cardiol*. 2012;60:1640-1646.
24. Del Gobbo LC, Kalantarian S, Imamura F, et al. Contribution of major lifestyle risk factors for incident heart failure in older adults: the Cardiovascular Health Study. *JACC Heart Fail*. 2015;3:520-528.
25. Larsson SC, Tektonidis TG, Gigante B, et al. Healthy lifestyle and risk of heart failure: results from 2 prospective cohort studies. *Circ Heart Fail*. 2016;9:e002855.
26. Tektonidis TG, Åkesson A, Gigante B, et al. Adherence to a Mediterranean diet is associated with reduced risk of heart failure in men. *Atherosclerosis*. 2016;18:253-259.
27. Tektonidis TG, Åkesson A, Gigante B, et al. A Mediterranean diet and risk of myocardial infarction, heart failure and stroke: a population-based cohort study. *Atherosclerosis*. 2015;243:93-98.
28. Levitan EB, Lewis CE, Tinker LF, et al. Mediterranean and DASH diet scores and mortality in women with heart failure: The Women's Health Initiative. *Circ Heart Fail*. 2013;6:1116-1123.
29. Chrysohoou C, Pitsavos C, Metallinos G, et al. Cross-sectional relationship of a Mediterranean type diet to diastolic heart function in chronic heart failure patients. *Heart Vessels*. 2012;27:576-584.
30. Kerley CPJChfr. Nutritional Interventions in Heart Failure: Challenges and Opportunities. *Curr Heart Fail Rep*. 2018;15:131-140.
31. Agha G, Loucks EB, Tinker LF, et al. Healthy lifestyle and decreasing risk of heart failure in women: the Women's Health Initiative observational study. *J Am Coll Cardiol*. 2014;64:1777-1785.
32. Belin RJ, Greenland P, Allison M, et al. Diet quality and the risk of cardiovascular disease: the Women's Health Initiative (WHI). *Am J Clin Nutr*. 2011;94:49-57.
33. Wirth MD, Shivappa N, Hurley TG, et al. Association between previously diagnosed circulatory conditions and a dietary inflammatory index. *Nutr Res*. 2016;36:227-233.
34. Liyanage T, Ninomiya T, Wang A, et al. Effects of the Mediterranean diet on cardiovascular outcomes—a systematic review and meta-analysis. *PLoS One*. 2016;11.
35. Tuttle KR, Shuler LA, Packard DP, et al. Comparison of low-fat versus Mediterranean-style dietary intervention after first myocardial infarction (from The Heart Insti-

- tute of Spokane Diet Intervention and Evaluation Trial). *Am J Cardiol.* 2008;101:1523-1530.
36. Sacks FM, Svetkey LP, Vollmer WM, et al. Effects on blood pressure of reduced dietary sodium and the Dietary Approaches to Stop Hypertension (DASH) diet. *N Engl J Med.* 2001;344:3-10.
  37. Levitan EB, Wolk A, Mittleman MA. Relation of consistency with the dietary approaches to stop hypertension diet and incidence of heart failure in men aged 45 to 79 years. *Arch Intern Med.* 2009;104:1416-1420.
  38. Nguyen HT, Bertoni AG, Nettleton JA, et al. DASH eating pattern is associated with favorable left ventricular function in the multi-ethnic study of atherosclerosis. *J Am Coll Nutr.* 2012;31:401-407.
  39. Salehi-Abargouei A, Maghsoudi Z, Shirani F, et al. Effects of Dietary Approaches to Stop Hypertension (DASH)-style diet on fatal or nonfatal cardiovascular diseases—incidence: a systematic review and meta-analysis on observational prospective studies. *Nutrition.* 2013;29:611-618.
  40. Singh RB, Rastogi SS, Verma R, et al. Randomised controlled trial of cardioprotective diet in patients with recent acute myocardial infarction: results of one year follow up. *BMJ (Clinical research ed).* 1992;304:1015-1019.
  41. Tuttle KR, Shuler LA, Packard DP, et al. Comparison of low-fat versus Mediterranean-style dietary intervention after first myocardial infarction (from The Heart Institute of Spokane Diet Intervention and Evaluation Trial). *Am J Cardiol.* 2008;101:1523-1530.
  42. Willemsen S, Hartog JW, Heiner-Fokkema MR, et al. Advanced glycation end-products, a pathophysiological pathway in the cardiorenal syndrome. *Heart Fail Rev.* 2012;17:221-228.
  43. Konerman MC, Hummel SL. Sodium restriction in heart failure: benefit or harm? *Curr Treat Options Cardiovasc Med.* 2014;16:286-286.
  44. Gupta D, Georgiopoulou VV, Kalogeropoulos AP, et al. Dietary sodium intake in heart failure. *Circulation.* 2012;126:479-485.
  45. Frediani JK, Reilly CM, Higgins M, et al. Quality and adequacy of dietary intake in a southern urban heart failure population. *J Cardiovasc Nurs.* 2013;28:119-128.
  46. Yancy C, Jessup M, Bozkurt B, et al. 2013 ACCF/AHA guideline for the management of heart failure: a report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines. *J Am Coll Cardiol.* 2013;128:e240.
  47. Willemsen S, Hartog JW, Heiner-Fokkema MR, et al. Advanced glycation end-products, a pathophysiological pathway in the cardiorenal syndrome. *Heart Fail Rev.* 2011;17:221-228.
  48. Hunt SA, Abraham WT, Chin MH, et al. ACC/AHA 2005 Guideline Update for the Diagnosis and Management of Chronic Heart Failure in the Adult: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines (Writing Committee to Update the 2001 Guidelines for the Evaluation and Management of Heart Failure): developed in collaboration with the American College of Chest Physicians and the International Society for Heart and Lung Transplantation: endorsed by the Heart Rhythm Society. *Circulation.* 2005;112:e154-235.
  49. Conraads VM, Bosmans JM, Vrints CJJ. Chronic heart failure: an example of a systemic chronic inflammatory disease resulting in cachexia. *Int J Cardiol.* 2002;85:33-49.
  50. von Haehling S, Doehner W, Anker SD. Nutrition, metabolism, and the complex pathophysiology of cachexia in chronic heart failure. *Cardiovasc Res.* 2007;73:298-309.
  51. Horwich TB, Fonarow GC, Hamilton MA, et al. The relationship between obesity and mortality in patients with heart failure. *J Am Coll Cardiol.* 2001;38:789-795.
  52. Payne-Emerson H, Lennie TA. Nutritional considerations in heart failure. *Nurs Clin North Am.* 2008;43:117-132; vii.
  53. Aquilani R, Opasich C, Verri M, et al. Is nutritional intake adequate in chronic heart failure patients? *J Am Coll Cardiol.* 2003;42:1218-1223.
  54. Trumbo P, Schlicker S, Yates AA, et al. Dietary reference intakes for energy, carbohydrate, fiber, fat, fatty acids, cholesterol, protein and amino acids. *J Am Diet Assoc.* 2002;102:1621-1630.
  55. Cascino TM, Hummel SL. Nutrient Deficiencies in Heart Failure: A Micro Problem With Macro Effects? *J Am Heart Assoc.* 2018;7:e010447-e010447.
  56. Lennie TA, Andreae C, Rayens MK, et al. Micronutrient deficiency independently predicts time to event in patients with heart failure. *J Am Heart Assoc.* 2018;7:e007251.
  57. Lin H, Zhang H, Lin Z, et al. Review of nutritional screening and assessment tools and clinical outcomes in heart failure. *Heart Fail Rev.* 2016;21:549-565.