

BÖLÜM 19

Mitral Darlığı ve Ekokardiyografi

Cemalettin YILMAZ¹

GİRİŞ

Mitral darlığı (MD) tanısının konulmasında, darlık şiddetinin, kapak anatomisinin ve hemodinamik sonuçlarının değerlendirilmesinde transtorasik ekokardiyografi (TTE) ve transözofageal ekokardiyografinin (TEE) önemli bir rolü vardır.

MİTRAL DARLIĞI NEDENLERİ

MD, romatizmal ateşin en sık görülen kapak komplikasyonlarından biridir. Sanayileşmiş ülkelerde bile diğer nedenler çok nadir olduğundan MD vakalarının çoğu romatizmal kaynaklıdır. Romatizmal kalp hastalıklarının prevalansındaki düşüş göz önüne alındığında MD en az görülen sol taraflı kapak hastalığı haline gelmiştir. Bununla birlikte Avrupa'da görülen sol taraflı kapak hastalıklarının yaklaşık %10'unu oluşturmaktadır ve gelişmekte olan ülkelerde daha sık görülmektedir (1,2). Romatizmal MD, erkeklerle kıyasla kadınlarda (vakaların %80'i) daha sık görülmektedir.

Romatizmal MD'nin altında yatan asıl mekanizma kommissüral füzyon ve posterior yaprakçığın kalınlaşmasıdır. Kordal kısalma, kordal füzyon, yaprakçık kalınlaşması ve hastalığın ilerleyen seyrinde romatizmal bulgular üzerine eklenen kalsifikasiyon gibi diğer anatomik sebepler yaprakçık hareketinin kısıtlamasına katkıda bulunmaktadır.

TTE, romatizmal MD'nin anatomsini ve fonksiyonel önemini aydınlatmak için tercih edilen ilk görüntüleme yöntemidir. Parasternal uzun eksen görüntü; ön mitral yaprakçığın karakteristik olan diyastolik doming hareketini tanımlar.

¹ Uzm. Dr., Malazgirt Devlet Hastanesi Kardiyoloji Kliniği, cmlldyn@gmail.com,
ORCID iD: 0000-0003-4140-9139



dinamik sonuçları ve olaysız sağ kalımı öngören belirleyicileridir. Balon mitral komissürotomi sonrasında MY derecesi ve yaş, fonksiyonel sınıf ve kalp ritmi gibi temel hasta özellikleri de balon mitral kommissurotominin uzun vadeli sonuçlarının güclü belirleyicileridir.

KAYNAKLAR

- Iung B, Baron G, Butchart EG, et al. A prospective survey of patients with valvular heart disease in Europe: The Euro Heart Survey on Valvular Heart Disease. *Eur Heart J.* 2003;24(13):1231–43.
- Marijon E, Ou P, Celermajer DS, et al. Prevalence of rheumatic heart disease detected by echocardiographic screening. *N Engl J Med.* 2007;357(5):470–6.
- Min SY, Song JM, Kim YJ, et al. Discrepancy between mitral valve areas measured by two-dimensional planimetry and three-dimensional transoesophageal echocardiography in patients with mitral stenosis. *Heart.* 2013;99(4):253–8.
- Nishimura RA, Rihal CS, Tajik AJ, et al. Accurate measurement of the transmитral gradient in patients with mitral stenosis: a simultaneous catheterization and Doppler echocardiographic study. *J Am Coll Cardiol.* 1994;24(1):152–8.
- Thomas JD, Newell JB, Choong CYP, et al. Physical and physiological determinants of transmитral velocity: numerical analysis. *Am J Physiol.* 1991;260.
- Rahimtoola SH, Durairaj A, Mehra A, et al. Current evaluation and management of patients with mitral stenosis. *Circulation.* 2002;106(10):1183–8.
- Eleid MF, Nishimura RA, Lennon RJ, et al. Left Ventricular Diastolic Dysfunction in Patients With Mitral Stenosis Undergoing Percutaneous Mitral Balloon Valvotomy. *Mayo Clin Proc.* 2013;88(4):337–44.
- Faletra F, Pezzano A, Fusco R, et al. Measurement of mitral valve area in mitral stenosis: four echocardiographic methods compared with direct measurement of anatomic orifices. *J Am Coll Cardiol.* 1996;28(5):1190–7.
- Vahanian A, Baumgartner H, Bax J, et al. Guidelines on the management of valvular heart disease: The Task Force on the Management of Valvular Heart Disease of the European Society of Cardiology. *Eur Heart J.* 2007;28(2):230–68.
- Iung B, Cormier B, Ducimetière P, et al. Immediate results of percutaneous mitral commissurotomy. A predictive model on a series of 1514 patients. *Circulation.* 1996;94(9):2124–30.
- Shaw TRD, Sutaria N, Prendergast B. Clinical and haemodynamic profiles of young, middle aged, and elderly patients with mitral stenosis undergoing mitral balloon valvotomy. *Heart.* 2003;89(12):1430–6.
- Sebag IA, Morgan JG, Handschumacher MD, et al. Usefulness of three-dimensionally guided assessment of mitral stenosis using matrix-array ultrasound. *Am J Cardiol.* 2005;96(8):1151–6.
- Zamorano J, Cordeiro P, Sugeng L, et al. Real-time three-dimensional echocardiography for rheumatic mitral valve stenosis evaluation: An accurate and novel approach. *J Am Coll Cardiol [Internet].* 2004;43(11):2091–
- Messika-Zeitoun D, Brochet E, Holmin C, et al. Three-dimensional evaluation of the mitral valve area and commissural opening before and after percutaneous mitral commissurotomy in patients with mitral stenosis. *Eur Heart J.* 2007;28(1):72–9.
- Toufan Tabrizi M, Faraji Azad H, Khezerlouy-Aghdam N, et al. Measurement of mitral valve area by direct three dimensional planimetry compared to multiplanar reconstruction in patients with rheumatic mitral stenosis. *Int J Cardiovasc Imaging.* 2022;38(6):1341–9.

16. Thomas JD, Weyman AE. Doppler mitral pressure half-time: a clinical tool in search of theoretical justification. *J Am Coll Cardiol.* 1987;10(4):923–9.
17. Gonzalez MA, Child JS, Krivokapich J. Comparison of two-dimensional and Doppler echocardiography and intracardiac hemodynamics for quantification of mitral stenosis. *Am J Cardiol.* 1987;60(4):327–32.
18. Thomas JD, Wilkins GT, Choong CYP, et al. Inaccuracy of mitral pressure half-time immediately after percutaneous mitral valvotomy. Dependence on transmural gradient and left atrial and ventricular compliance. *Circulation.* 1988;78(4):980–93.
19. Schwammthal E, Vered Z, Agranat O, et al. Impact of atrioventricular compliance on pulmonary artery pressure in mitral stenosis: an exercise echocardiographic study. *Circulation.* 2000;102(19):2378–84.
20. Flachskampf FA, Weyman AE, Guerrero JL, et al. Calculation of atrioventricular compliance from the mitral flow profile: analytic and in vitro study. *J Am Coll Cardiol.* 1992;19(5):998–1004.
21. Wilkins GT, Weyman AE, Abascal VM, et al. Percutaneous balloon dilatation of the mitral valve: an analysis of echocardiographic variables related to outcome and the mechanism of dilatation. *Br Heart J.* 1988;60(4):299–308.
22. Vahanian A, Beyersdorf F, Praz F, et al. 2021 ESC/EACTS Guidelines for the management of valvular heart disease. *Eur Heart J.* 2022;43(7):561–632.
23. Nunes MCP, Tan TC, Elmariah S, et al. The echo score revisited: Impact of incorporating commissural morphology and leaflet displacement to the prediction of outcome for patients undergoing percutaneous mitral valvuloplasty. *Circulation.* 2014;129(8):886–95.
24. Bonow RO, O’Gara PT, Adams DH, et al. 2019 AATS/ACC/SCAI/STS Expert Consensus Systems of Care Document: Operator and Institutional Recommendations and Requirements for Transcatheter Mitral Valve Intervention: A Joint Report of the American Association for Thoracic Surgery, the American College of Cardiology, the Society for Cardiovascular Angiography and Interventions, and The Society of Thoracic Surgeons. *J Am Coll Cardiol.* 2020;76(1):96–117.
25. Bouleti C, Iung B, Himbert D, et al. Reinterventions after percutaneous mitral commissurotomy during long-term follow-up, up to 20 years: the role of repeat percutaneous mitral commissurotomy. *Eur Heart J.* 2013;34(25):1923–30.
26. Zoghbi WA, Enriquez-Sarano M, Foster E, et al. Recommendations for Evaluation of the Severity of Native Valvular Regurgitation with Two-dimensional and Doppler Echocardiography. *Journal of the American Society of Echocardiography.* 2003;16(7):777–802.
27. Dreyfus GD, Corbi PJ, Chan KMJ, et al. Secondary tricuspid regurgitation or dilatation: which should be the criteria for surgical repair? *Ann Thorac Surg.* 2005;79(1):127–32.
28. Otto CM, Nishimura RA, Bonow RO, et al. 2020 ACC/AHA Guideline for the Management of Patients With Valvular Heart Disease: A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines. *Circulation.* 2021;143(5):E72–227.