

Bölüm

21

Maskeli Hipertansiyon

Celal KİLİT¹

GİRİŞ

“Maskeli” veya “izole ambulatuvar hipertansiyon”, ofis kan basıncının normal olduğu, ofis dışı kan basıncının ise yüksek saptandığı klinik durumu ifade eder (Tablo 1).⁽¹⁾ Maskeli hipertansiyon terimi, başlangıçta hipertansiyon tedavisi görmeyen kişiler için tanımlanmış olsa da artık hipertansiyon tedavisi gören hastalarda ofis ve ofis dışı kan basıncı arasındaki tutarsızlıkları tanımlamak için de kullanılmaktadır. Daha önce “ters beyaz önlük hipertansiyonu” veya “beyaz önlük normotansiyonu” gibi isimler verilen bu fenomen, ilk defa 2002 yılında Thomas G. Pickering ve arkadaşları tarafından maskeli hipertansiyon olarak adlandırılmıştır.⁽²⁾

Tablo 1. Ofis ve ofis dışı kan basıncı ölçümlerine göre kan basıncı sınıflaması

	Normal Ofis Dışı Kan Basıncı	Yüksek Ofis Dışı Kan Basıncı
Normal Ofis Kan Basıncı	Gerçek normotansiyon	Maskeli hipertansiyon
Yüksek Ofis Kan Basıncı	Beyaz önlük hipertansiyonu	Devamlı hipertansiyon

TANIM

Maskeli hipertansiyon, tedavi edilmemiş yani antihipertansif ilaç kullanmayan hastalarda ortalama kan basıncının ofis dışı (tıbbi ortam dışı) ölçümlere göre hipertansiyon eşliğinde veya üzerinde, ofisteki ölçümlere göre ise hipertansiyon eşliğinin altında olması durumudur.

Maskeli kontrolsüz hipertansiyon ise, tedavi edilen yani antihipertansif ilaç kullanan hastalarda ortalama kan basıncının ofis dışı ölçümlere göre hastaya göre

¹ Doç. Dr., Uşak Üniversitesi Tıp Fakültesi, Kardiyoloji A.B.D., ckilit@hotmail.com

müzde en uygun ve en etkili antihipertansif ilaç seçimi konusunda herhangi bir klinik veri yoktur.

Günümüzde maskeli kontrolsüz hipertansiyonu olan hastaların sonlanımları konusunda yeterli veri mevcut değildir. Maskeli kontrolsüz hipertansiyonun saptanması, antihipertansif tedavinin yetersizliğinin ve kan basıncının yeterince kontrol altına alınmadığının göstergesidir. Bu grup hastalardaki yüksek kardiyovasküler risk göz önünde bulundurularak hem ofis hem de ofis dışı kan basınçlarının kontrol edilmesini sağlamak amacıyla antihipertansif ilaç titrasyonu düşünülmelidir.

SONUÇ

Kardiyovasküler riskin devamlı hipertansiyona yakın ya da benzer olduğu maskeli hipertansiyon, çoğunlukla tespit edilememekte ve dolayısıyla hastalar tedavi alamamaktadır. Bu grup hastaların erken tanı ve tedavisi için özellikle yüksek kardiyovasküler risk altındaki hastaların kan basınçları ofis bazlı ölçümlere ilave olarak ofis dışı ölçümlerle de izlenmeli ve yönetilmelidir. Ayrıca maskeli hipertansiyonun görülme sıklığının arttığı klinik durumlarda da ofis dışı ölçümlere başvurulması önemlidir.

KAYNAKÇA

1. Bobrie G, Clerson P, Ménard J, et al. Masked hypertension: a systematic review. *J Hypertens*, 2008; 26(9), 1715-1725. Doi: 10.1097/HJH.0b013e3282fbcedf
2. Pickering TG, Davidson K, Gerin W, et al. Masked hypertension. *Hypertension*, 2002; 40(6), 795-796. Doi: 10.1161/01.hyp.0000038733.08436.98doi:10.1161/01.hyp.0000038733.08436.98
3. Banegas JR, Ruilope LM, de la Sierra A, et al. High prevalence of masked uncontrolled hypertension in people with treated hypertension. *Eur Heart J*, 2014; 35(46), 3304-3312. Doi: 10.1093/eurheartj/ehu016
4. Stergiou GS, Bliziotis IA. Home blood pressure monitoring in the diagnosis and treatment of hypertension: a systematic review. *Am J Hypertens*, 2011; 24(2), 123-134. Doi: 10.1038/ajh.2010.194
5. Niiranen TJ, Mäki J, Puukka P, et al. Office, home, and ambulatory blood pressures as predictors of cardiovascular risk. *Hypertension*, 2014; 64(2), 281-286. Doi: 10.1161/HYPERTENSIONAHA.114.03292
6. Fagard RH, Van Den Broeke C, De Cort P. Prognostic significance of blood pressure measured in the office, at home and during ambulatory monitoring in older patients in general practice. *J Hum Hypertens*, 2005; 19(10), 801-807. Doi: 10.1038/sj.jhh.1001903
7. Shimbo D, Abdalla M, Falzon L, et al. Studies comparing ambulatory blood pressure and home blood pressure on cardiovascular disease and mortality outcomes: a systematic review. *J Am Soc Hypertens*, 2016; 10(3), 224-234.e17. Doi: 10.1016/j.jash.2015.12.013
8. Kang YY, Li Y, Huang QF, et al. Accuracy of home versus ambulatory blood pressure monitoring in the diagnosis of white-coat and masked hypertension. *J Hypertens*, 2015; 33(8), 1580-1587. Doi: 10.1097/HJH.0000000000000596
9. Booth JN 3rd, Diaz KM, Seals SR, et al. Masked Hypertension and Cardiovascular Disease Events in a Prospective Cohort of Blacks: The Jackson Heart Study. *Hypertension*, 2016; 68(2), 501-510. Doi: 10.1161/HYPERTENSIONAHA.116.07553

10. Muntner P, Shimbo D, Carey RM, et al. Measurement of Blood Pressure in Humans: A Scientific Statement From the American Heart Association. *Hypertension*, 2019; 73(5), e35-e66. Doi: 10.1161/HYP.0000000000000087
11. Muntner P, Einhorn PT, Cushman WC, et al. Blood Pressure Assessment in Adults in Clinical Practice and Clinic-Based Research: JACC Scientific Expert Panel. *J Am Coll Cardiol*. 2019; 73(3), 317-335. Doi: 10.1016/j.jacc.2018.10.069
12. Mancia G, Fagard R, Narkiewicz K, et al. 2013 ESH/ESC guidelines for the management of arterial hypertension: the Task Force for the Management of Arterial Hypertension of the European Society of Hypertension (ESH) and of the European Society of Cardiology (ESC). *Eur Heart J*, 2013; 34(28), 2159-2219. Doi: 10.1093/eurheartj/ehs151
13. Fagard RH, Cornelissen VA. Incidence of cardiovascular events in white-coat, masked and sustained hypertension versus true normotension: a meta-analysis. *J Hypertens*, 2007; 25(11), 2193-2198. Doi: 10.1097/HJH.0b013e3282ef6185
14. Peacock J, Diaz KM, Viera AJ, et al. Unmasking masked hypertension: prevalence, clinical implications, diagnosis, correlates and future directions. *J Hum Hypertens*, 2014; 28(9), 521-528. Doi: 10.1038/jhh.2014.9
15. Kawabe H, Saito I. Reproducibility of masked hypertension determined from morning and evening home blood pressure measurements over a 6-month period. *Hypertens Res*, 2007; 30(9), 845-851. Doi: 10.1291/hyres.30.845
16. Aksu F, Keleş N, Yılmaz Y, et al. Masked Hypertension. *Masked Hypertension. Medeniyet Med J*, 2016; 31(2), 122-127. Doi: 10.5222/MMJ.2016.122
17. Dolan E, Stanton A, Thijs L, et al. Superiority of ambulatory over clinic blood pressure measurement in predicting mortality: the Dublin outcome study. *Hypertension*, 2005; 46(1), 156-161. Doi: 10.1161/01.HYP.0000170138.56903.7a
18. Franklin SS, O'Brien E, Staessen JA. Masked hypertension: understanding its complexity. *Eur Heart J*, 2017; 38(15), 1112-1118. Doi: 10.1093/eurheartj/ehw502
19. Pareek AK, Messerli FH, Chandurkar NB, et al. Efficacy of Low-Dose Chlorthalidone and Hydrochlorothiazide as Assessed by 24-h Ambulatory Blood Pressure Monitoring. *J Am Coll Cardiol*, 2016; 67(4), 379-389. Doi: 10.1016/j.jacc.2015.10.083
20. Sheppard JP, Fletcher B, Gill P, et al. Predictors of the Home-Clinic Blood Pressure Difference: A Systematic Review and Meta-Analysis. *Am J Hypertens*, 2016; 29(5), 614-625. Doi: 10.1093/ajh/hpv157
21. Franklin SS, Thijs L, Li Y, et al. Masked hypertension in diabetes mellitus: treatment implications for clinical practice. *Hypertension*, 2013; 61(5), 964-971. Doi: 10.1161/HYPERTENSIONA-HA.111.00289
22. Drawz PE, Alper AB, Anderson AH, et al. Masked Hypertension and Elevated Nighttime Blood Pressure in CKD: Prevalence and Association with Target Organ Damage. *Clin J Am Soc Nephrol*, 2016; 11(4), 642-652. Doi: 10.2215/CJN.08530815
23. Baguet JP, Lévy P, Barone-Rochette G, et al. Masked hypertension in obstructive sleep apnea syndrome. *J Hypertens*, 2008; 26(5), 885-892. Doi: 10.1097/HJH.0b013e3282f55049
24. Parati G, Stergiou G, O'Brien E, et al. European Society of Hypertension practice guidelines for ambulatory blood pressure monitoring. *J Hypertens*, 2014; 32(7), 1359-1366. Doi: 10.1097/HJH.0000000000000221
25. Eguchi K, Ishikawa J, Hoshida S, et al. Masked hypertension in diabetes mellitus: a potential risk. *J Clin Hypertens (Greenwich)*, 2007; 9(8), 601-607. Doi: 10.1111/j.1524-6175.2007.06610.x
26. Grassi G, Seravalle G, Trevano FQ, et al. Neurogenic abnormalities in masked hypertension. *Hypertension*, 2007; 50(3), 537-542. Doi: 10.1161/HYPERTENSIONAHA.107.092528
27. Gryglewska B, Necki M, Cwynar M, et al. Neurogenic and myogenic resting skin blood flow-motion in subjects with masked hypertension. *J Physiol Pharmacol*, 2010; 61(5), 551-558.
28. Triantafyllou A, Doumas M, Anyfanti P, et al. Divergent retinal vascular abnormalities in normotensive persons and patients with never-treated, masked, white coat hypertension. *Am J Hypertens*, 2013; 26(3), 318-325. Doi: 10.1093/ajh/hps040

29. Palatini P, Winnicki M, Santonastaso M, et al. Prevalence and clinical significance of isolated ambulatory hypertension in young subjects screened for stage 1 hypertension. *Hypertension*, 2004; 44(2), 170-174. Doi: 10.1161/01.HYP.0000135250.57004.19
30. Mancia G, Facchetti R, Bombelli M, et al. Long-term risk of mortality associated with selective and combined elevation in office, home, and ambulatory blood pressure. *Hypertension*, 2006; 47(5), 846-853. Doi: 10.1161/01.HYP.0000215363.69793.bb
31. Liu JE, Roman MJ, Pini R, et al. Cardiac and arterial target organ damage in adults with elevated ambulatory and normal office blood pressure. *Ann Intern Med*, 1999; 131(8), 564-572. Doi: 10.7326/0003-4819-131-8-199910190-00003
32. Sega R, Trocino G, Lanzarotti A, et al. Alterations of cardiac structure in patients with isolated office, ambulatory, or home hypertension: Data from the general population (Pressione Arteriose Monitorate E Loro Associazioni [PAMELA] Study). *Circulation*, 2001; 104(12), 1385-1392. Doi: 10.1161/hc3701.096100
33. Mancia G, Bombelli M, Facchetti R, et al. Increased long-term risk of new-onset diabetes mellitus in white-coat and masked hypertension. *J Hypertens*, 2009; 27(8), 1672-1678. Doi: 10.1097/HJH.0b013e32832be5f9
34. Mancia G, Bombelli M, Facchetti R, et al. Long-term risk of sustained hypertension in white-coat or masked hypertension. *Hypertension*, 2009; 54(2), 226-232. Doi: 10.1161/HYPERTENSIONAHA.109.129882
35. Ogedegbe G, Agyemang C, Ravenell JE. Masked hypertension: evidence of the need to treat. *Curr Hypertens Rep*, 2010; 12(5), 349-355. Doi: 10.1007/s11906-010-0140-4
36. Lurbe E, Torro I, Alvarez V, et al. Prevalence, persistence, and clinical significance of masked hypertension in youth. *Hypertension*, 2005; 45(4), 493-498. Doi: 10.1161/01.HYP.0000160320.39303.ab
37. Pierdomenico SD, Cuccurullo F. Prognostic value of white-coat and masked hypertension diagnosed by ambulatory monitoring in initially untreated subjects: an updated meta analysis. *Am J Hypertens*, 2011; 24(1), 52-58. Doi: 10.1038/ajh.2010.203
38. Lurbe E, Redon J, Kesani A, et al. Increase in nocturnal blood pressure and progression to microalbuminuria in type 1 diabetes. *N Engl J Med*, 2002; 347(11), 797-805. Doi: 10.1056/NEJMoa013410
39. Wijkman M, Länne T, Engvall J, et al. Masked nocturnal hypertension--a novel marker of risk in type 2 diabetes. *Diabetologia*, 2009; 52(7), 1258-1264. Doi: 10.1007/s00125-009-1369-9
40. Pierdomenico SD, Pierdomenico AM, Coccina F, et al. Prognostic Value of Masked Uncontrolled Hypertension. *Hypertension*, 2018; 72(4), 862-869. Doi: 10.1161/HYPERTENSIONAHA.118.11499
41. Ku E, Hsu RK, Tuot DS, et al. Magnitude of the Difference Between Clinic and Ambulatory Blood Pressures and Risk of Adverse Outcomes in Patients With Chronic Kidney Disease. *J Am Heart Assoc*, 2019; 8(9), e011013. Doi: 10.1161/JAHA.118.011013
42. Agarwal R, Andersen MJ. Prognostic importance of ambulatory blood pressure recordings in patients with chronic kidney disease. *Kidney Int*, 2006; 69(7), 1175-1180. Doi: 10.1038/sj.ki.5000247
43. Hodgkinson J, Mant J, Martin U, et al. Relative effectiveness of clinic and home blood pressure monitoring compared with ambulatory blood pressure monitoring in diagnosis of hypertension: systematic review. *BMJ*, 2011; 342, d3621. Doi: 10.1136/bmj.d3621
44. Whelton PK, Carey RM, Aronow WS, et al. 2017 ACC/AHA/AAPA/ABC/ACPM/AGS/APhA/ASH/ASPC/NMA/PCNA Guideline for the Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines [published correction appears in *Hypertension*. 2018 Jun;71(6):e140-e144]. *Hypertension*, 2018; 71(6), e13-e115. Doi: 10.1161/HYP.0000000000000065
45. Nerenberg KA, Zarnke KB, Leung AA, et al. Hypertension Canada's 2018 Guidelines for Diagnosis, Risk Assessment, Prevention, and Treatment of Hypertension in Adults and Children. *Can J Cardiol*, 2018; 34(5), 506-525. Doi: 10.1016/j.cjca.2018.02.022

46. Booth JN 3rd, Hubbard D, Sakhuja S, et al. Proportion of US Adults Recommended Out-of-Clinic Blood Pressure Monitoring According to the 2017 Hypertension Clinical Practice Guidelines. *Hypertension*, 2019; 74(2), 399-406. Doi: 10.1161/HYPERTENSIONAHA.119.12775
47. Parati G, Agabiti-Rosei E, Bakris GL, et al. MASKed-unconTrolled hypERTension management based on office BP or on ambulatory blood pressure measurement (MASTER) Study: a randomised controlled trial protocol. *BMJ Open*, 2018; 8(12), e021038. Doi: 10.1136/bmjopen-2017-021038
48. Mancia G, Verdecchia P. Clinical value of ambulatory blood pressure: evidence and limits. *Circ Res*, 2015; 116(6), 1034-1045. Doi: 10.1161/CIRCRESAHA.116.303755
49. Björklund K, Lind L, Zethelius B, et al. Isolated ambulatory hypertension predicts cardiovascular morbidity in elderly men. *Circulation*, 2003; 107(9), 1297-1302. Doi: 10.1161/01.cir.0000054622.45012.12