

## Bölüm 7

# EREKTİL DİSFONKSİYON

Gökhan ÇİL<sup>1</sup>

## GİRİŞ

Erektile disfonksiyon (ED), cinsel ilişki için yeterli sertliğe ulaşmada veya sürdürmede yetersizlik olarak tanımlanır. Cerrahi olarak indüklenen veya travmatik ED hariç olmak üzere, en az 3 ay devam etmelidir (1,2).

## EPİDEMİYOLOJİ

ED, her yaştan erkeği etkileyebilen bir durum olmakla birlikte, prevalansı yaşla birlikte artar. 1995 yılında 152 milyon olan ED prevalansının 2025 yılında 322 milyona ulaşacağı tahmin edilmektedir (3). Uluslararası Cinsel Tıp Komitesi (ICSM), 40 yaşından genç erkeklerde ED prevalansını %1-9 arasında belirtmektedir. ED prevalansının 40-59 yaş arası erkeklerde %2-30 olduğu, 60-69 yaşları arasında %20-40 arasında olduğu ayrıca 70-80'li yaşlardaki erkeklerde %75'e ulaşığı düşünülmektedir (1).

## EREKSİYON MEKANİZMASI

Penil ereksonun gelişmesinde hormonlar, psikolojik ve nörovasküler faktörler rol oynar. Penis flask durumdayken kavernozaal düz kas tonusu artar ve bu da yüksek bir periferik vasküler direnç ile sonuçlanır. Bu durum kavernozaal damarlara düşük hacimde kan girmesiyle sonuçlanır ve sempatik sinir sistemi, nörotransmitter ve noradrenalin tarafından kontrol edilir. Cinsel uyarılma ve nöronal aktivasyon, kavernozaal düz kasta vazodilatasyon ve gevşeme ile sonuçlanır. Ereksonun ortaya çıkmasında birkaç nörotransmitter görev alır ancak nitrik oksit (NO) kilit rol oynar. NO, kavernozaal düz kastaki parasympatik ve adrenerjik olmayan nonkolinerjik (NANC) nöronlardan salınır (4). Bu nörovasküler olay, arterlerin dilatasyonuna, sinüzoidal boşlukların genişlemesine ve periferik vasküler direncin genel olarak azalmasına neden olur. Bu durum penise net bir

<sup>1</sup> Üroloji Uzmanı, Bağcılar Eğitim ve Araştırma Hastanesi, cilgok@gmail.com  
ORCID iD: 0000-0001-8997-3164

## KAYNAKLAR

1. Lewis RW, Fugl-Meyer KS, Corona G. Definitions/ epidemiology/risk factors for sexual dysfunction. *J Sex Med* 2010;7:1598–1607.
2. Shamloul R, Ghanem H. Erectile dysfunction. *Lancet* 2013;381:153–165.
3. Aya IA, Mckinlay JB, Krane RJ. The likely worldwide increase in erectile dysfunction between 1995 and 2025 and some possible policy consequences. *BJU Int* 1999;84:50–56.
4. Feldman HA, Johannes CB, Derby CA. Erectile dysfunction and coronary risk factors: Prospective results from the Massachusetts male aging study. *Prev Med* 2000;30:328–338.
5. Rieto D. Physiological regulation of penile arteries and veins. *Int J Impot Res* 2008;20:17–29.
6. Siddiqui MA, Peng B, Shanmugam N. Erectile dysfunction in young surgically treated patients with lumbar spine disease: A prospective follow-up study. *Spine (Phila Pa 1976)* 2012;37:797–801.
7. Mulhall JP. Penile rehabilitation following radical prostatectomy. *Curr Opin Urol* 2008;18:613–620.
8. Traish AM, Munarriz R, O'Connell L. Effects of medical or surgical castration on erectile function in an animal model. *J Androl* 2003;24:381–387.
9. Kharlip J, Salvatori R, Yenokyan G. Recurrence of hyperprolactinemia after withdrawal of long-term cabergoline therapy. *J Clin Endocrinol Metab* 2009;94:2428–2436.
10. Aversa A, Bruzziches R, Francomano D. Endothelial dysfunction and erectile dysfunction in the aging man. *Int J Urol* 2010;17:38–47.
11. Hallerstrom M, Von Stempel CB, Raheem A. Abnormal deep dorsal vein resulting in veno-occlusive erectile dysfunction. *BMJ Case Rep* 2018.
12. Lotti F, Maggi M. Sexual dysfunction and male infertility. *Nat Rev Urol* 2018;15:287–307.
13. Khademi A, Alleyassin A, Amini M. Evaluation of sexual dysfunction prevalence in infertile couples. *J Sex Med* 2008;5:1402–1410.
14. Lotti F, Corona G, Rastrelli G. Clinical correlates of erectile dysfunction and premature ejaculation in men with couple infertility. *J Sex Med* 2012;9:2698–2707.
15. Capogrosso P, Ventimiglia E, Boeri L. Sexual functioning mirrors overall men's health status, even irrespective of cardiovascular risk factors. *Andrology* 2017;5:63–69.
16. Salonia A, Castagna G, Sacca A. Is erectile dysfunction a reliable proxy of general male health status? The case for the International Index of Erectile Function- Erectile Function domain. *J Sex Med* 2012;9:2708–2715.
17. Althof S, Rosen R, Perelman M. Standard operating procedures for taking a sexual history. *J Sex Med* 2013;10(1):26–35.
18. Hatzichristou D, Kirana P, Banner L. Diagnosing sexual dysfunction in men and women: Sexual history taking and the role of symptom scales and questionnaires. *J Sex Med* 2016;13(8):1166–1182.
19. Rosen R, Riley A, Wagner G. The international index of erectile function (IIEF): A multidimensional scale for assessment of erectile dysfunction. *Urology* 1997;49(6):822–830.
20. Mulhall J, Goldstein I, Bushmakin A. Original Research—Outcomes Assessment: Validation of the Erection Hardness Score. *J Sex Med* 2007;4(6):1626–1634.

21. Cappelleri J, Siegel R, Glasser D. Relationship between patient self-assessment of erectile dys- function and the sexual health inventory for men. Clin Ther 2001;23(10):1707–1719.
22. Davis-Joseph B, Tiefer L, Melman A. Accuracy of the initial history and physical examination to establish the etiology of erectile dysfunction. Urology 1995;45(3):498–502.
23. Hatzichristou D, Hatzimouratidis K, Ioannides E. Nocturnal penile tumescence and rigidity monitoring in young potent volunteers: Reproducibility, evaluation criteria and the effect of sexual intercourse. J Urol 159(6):1921–1926.
24. Hatzichristou D, Hatzimouratidis K, Apostolidis A. Hemodynamic character- ization of a functional erection. Eur Urol 1999;36(1):60–67.
25. Sikka S, Hellstrom W, Brock G. Standardization of vascular assessment of erectile dysfunction. J Sex Med 2013;10(1):120 –129.
26. Spiliopoulos S, Shaida N, Katsanos K. The role of interventional radiology in the diagnosis and manage- ment of male impotence. CardioVasc Intervent Radiol 2012;36(5):1204 –1212 .
27. Moyad M, Barada J, Lue T. Prevention and treatment of erectile dysfunction using life- style changes and dietary supplements: What works and what is worthless, part II. Urol Clin North Am 2004;31(2):259–273.
28. Isidori A, Buvat J, Corona G. A critical analysis of the role of testosterone in erectile function: From pathophysiology to treatment—A systematic review. Eur Urol 2014;65(1):99–112.
29. Rosen RC. Psychogenic erectile dysfunction. Classification and management. Urol Clin North Am 2001;28:269.
30. Hatzimouratidis K, Salonia A, Adaikan G. Pharmacotherapy for erectile dysfunction: Recommendations from the fourth international consultation for sexual medicine (ICSM, 2015). J Sex Med 2016;13(4):465–488.
31. Raheem AA, Kell P. Patient preference and satisfaction in erectile dysfunction therapy: A comparison of the three phosphodiesterase-5 inhibitors sildenafil, vardenafil and tadalafil. Patient Prefer Adherence 2009;3:99.
32. Corona G, Rastrelli G, Burri A. The safety and efficacy of Avanafil, a new 2nd generation PDE5i: Comprehensive review and meta-analysis. Expert Opinion on Drug Safety 2016;15(2):237–247.
33. Lu Z, Lin G, Reed-Maldonado A. Low-intensity extracorporeal shock wave treat- ment improves erectile function: A systematic review and meta-analysis. Eur Urol 2017;71(2):223–233.
34. Frey A, Sønksen J, Fode M. Low-intensity extracorpo- real shockwave therapy in the treatment of postprosta- tectomy erectile dysfunction: A pilot study. Scand J Urol 2016;50(2):123–127.
35. Raina R, Pahlajani G, Agarwal A. The early use of transurethral alprostadil after radical prostatectomy poten- tially facilitates an earlier return of erectile function and suc- cessful sexual activity. BJU Int 2007;100(6):1317–1321.
36. Cuzin B. Alprostadil cream in the treatment of erectile dys- function: Clinical eviden- ce and experience. Ther Adv Urol 2016;8(4):249–256.
37. Nason G, McNamara F, Twyford M. Efficacy of vacuum erectile devices (VEDs) after radical prostatectomy: The initial Irish experience of a dedicated VED clinic. Int J Impot Res 2016;28(6):205–208.

38. Falcone M, Rolle L, Ceruti C. Prospective analysis of the surgical outcomes and patients' satisfaction rate after the AMS spectra penile prosthesis implantation. *Urology* 2013;82(2):373–376.
39. Levine L, Estrada C, Morgentaler A. Mechanical reliability and safety of, and patient satisfaction with the ambicor inflatable penile prosthesis: Results of a 2 center study. *J Urol* 2001;166(3):932–937.
40. Carson C, Mulcahy J, Govier F. Efficacy, safety and patient satisfaction outcomes of the ams 700cx inflatable penile prosthesis: Results of a long-term multicenter study. *J Urol* 2000;164(2):376 –380.
41. Falcone M, Garaffa G. Penile implant satisfaction: Do we really know? *J Sex Med* 2018;15(2):118–119.