

ÜROJİNEKOLOJİK REHABİLİTASYON

31. BÖLÜM

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Giriş

Üriner inkontinans (Üi), istemsiz idrar kaçırma şikayeti olarak tanımlanmıştır. Bu durum her iki cinsiyette de görülür, ancak kadınlarda daha sık görülür. Dünya çapında erkeklerde %13,9 ve kadınlarda %51,1 yaygınlığı olan bir durumdur. Üi'nin neredeyse sadece doğum yapan kadınlarla ve yaşlılarla ilişkili olduğu genel bir inancı vardır. Bununla birlikte, epidemiyolojik çalışmalar, hiç doğum yapmamış olan genç kadınların da Üi epi-zodları yaşadıklarını ve risk faktörlerinin bilinmediğini bildirmektedir (1,2,3).

Patofizyolojisinde, cinsiyetler arasında bir miktar örtüşme olsa da, erkeklerde inkontinans genellikle prostat büyümesi veya prostat kansemi için yapılan cerrahi veya radyoterapi tedavisi sırasında kontinans mekanizmalarının zarar görmesiyle ilişkilidir. Buna karşın kadınlarda inkontinans ise tipik olarak mesane veya pelvik taban kaslarının işlev bozukluğu ile ilişkilidir, bu tür işlev bozukluğu genellikle hamilelik ve doğum esnasında veya menopoz zamanında ortaya çıkar. Yüksek prevalansı ve benzersiz patofizyolojisi nedeniyle Üi ilk olarak kadına odaklanır (4,5).

Üi için sinir sistemi, üretral sfinkter ve detrusor kası arasında sağlam ve kompleks bir etkileşiminin yanında kişinin işeme için bilişsel ve

fiziksel olarak da sağlam olması ve uygun bir yer bulabilmesi de gerekmektedir. Yani inkontinans, multifaktöriyel bir semptomdur (6,7).

Üriner inkontinansın, stres inkontinansı (Si) ve urge inkontinansı (Ui) olmak üzere iki ana alt tipi vardır. Uluslararası Ürojinekoloji Derneği (IUGA) ve Uluslararası Kontinans Derneği (ICS) standart tanımına göre, stres inkontinans öksürük, hapşırma veya fiziksel efor ile ilişkili olarak idrar kaçırması şikayetidir, buna karşın urge inkontinansi, ertelenmesi zor olan ani bir zorlama isteği ile ilişkili idrar kaçırması şikayetidir (4,5).

Bu iki alt tip o kadar yaygındır ki, mikst inkontinans (Mi) olarak adlandırılan semptomların bir kombinasyonu olarak genellikle bir arada bulunurlar. Ui olan çoğu kadın, Üi'nin olası bir bilesenini oluşturduğu overaktif mesane sendromu (OMS) tanısı da alır (4,5).

Kadınlarda daha nadir inkontinans alt tipleri arasında vücut pozisyonu değişikliği ile idrar kaçağına neden olan (genellikle ayağa kalktığında veya eğildiğinde) postural inkontinans, uyku sırasında idrar kaçağı olan nocturnal enuresis, yaygın nedeni veziküler fistülleri içeren sürekli inkontinans ve cinsel ilişki sırasında idrar kaçağı yapan koital inkontinansı içermektedir (4,5).

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KAYNAKLAR

1. Almousa S, Bandin van Loon A. The prevalence of urinary incontinence in nulliparous adolescent and middle-aged women and the associated risk factors: A systematic review. *Maturitas*, 107, (2018). 78-83. doi:10.1016/j.maturitas.2017.10.003
2. Bernard T. Haylen, Dirk De Ridder, Robert M. Freeman, et al. An International Urogynecological Association (IUGA)/International Continence Society (ICS) joint report on the terminology for female pelvic floor dysfunction, *Int. Urogynecol. J.* 21 (1) (2010) 5–26.
3. Alayne D. Markland, Holly E. Richter, Chyng-Wen Fwu, et al. Prevalence and trends of urinary incontinence in adults in the United States, 2001–2008, *J. Urol.* 2 (2011) 589–593.
4. Aoki Y, Brown H.W, Brubaker L, et al. Urinary incontinence in women. *Nat. Rev. Dis. Primers* 2017, 3, 57–67.
5. Shakespeare K, Barradell V, Orme S. Management of urinary incontinence in frail elderly women. *Obstet. Gynaecol. Reprod. Med.* 21, 281–287 (2011).
6. Eskiyyurt N. (2016). Ürojinekolojik Reabilitasyon. Mehmet Beyazova, Yeşim Gökcé Kutsal (ed). *Fiziksel Tıp ve Reabilitasyon (s 1497-1513)*. Ankara: Güneş Tıp Kitabevi.
7. Abrams P, Andersson KE, Birder L, et al. Fourth International Consultation on Incontinence Recommendations of the International Scientific Committee: Evaluation and Treatment of Urinary Incontinence, Pelvic Organ Prolapse, and Fecal Incontinence. *Neurourology and Urodynamics* 29:213–240 (2010).
8. Saarni S. I, Harkanen T, Sintonen H, et al. The impact of 29 chronic conditions on health-related quality of life: a general population survey in Finland using 15D and EQ-5D. *Qual. Life Res.* 15, 1403–1414 (2006).
9. Norton P, Brubaker L. Urinary incontinence in women. *Lancet*. 2006. Jan 7;367 (9504):57-67.
10. Mazur-Bialy AI, Kołomańska-Bogucka D, Nowakowski C, et al. Urinary Incontinence in Women: Modern Methods of Physiotherapy as a Support for Surgical Treatment or Independent Therapy. *J Clin Med.* 2020 Apr 23;9(4):1211. doi:10.3390/jcm9041211. PMID: 32340194.
11. Abrams P, Cardozo L, Wagg A, et al. 6th ed. International Continence Society; Bristol, UK, 2017.
12. Bardsley A. Review of urinary incontinence. *Br. J. Nurs.* 2016; 25: 14-21. doi: 10.12968 /bjon.2016.25.18.S14.
13. Minassian V. A, Drutz H. P, AlBadr A. Urinary incontinence as a worldwide problem. *Int. J. Gynecol. Obstet.* 82, 327–338 (2003).
14. Cerruto M. A, D'Elia C, Aloisi A, et al. Prevalence, incidence and obstetric factors' impact on female urinary incontinence in Europe: a systematic review. *Urol. Int.* 90, 1–9 (2013).
15. Irwin, D. E, Milsom L, Hunskaar S, et al. Population-based survey of urinary incontinence, overactive bladder, and other lower urinary tract symptoms in five countries: results of the EPIC Study. *Eur. Urol.* 50, 1306–1315 (2006).
16. Minassian V. A, Stewart W. F, Wood G. C. Urinary incontinence in women. *Obstet. Gynecol.* 111, 324–331 (2008).
17. Ebbesen M. H, Hunskaar S, Rortveit G, et al. Prevalence, incidence and remission of urinary incontinence in women: longitudinal data from the Norwegian HUNT study (EPINCONT). *BMC Urol.* 13, 27 (2013).
18. Zhang L, Zhu L, Xu T, et al. A population-based survey of the prevalence, potential risk factors and symptom-specific bother of lower urinary tract symptoms in adult Chinese women. *Eur. Urol.* 68, 97–112 (2015).
19. Wu J. M, Hundley A. F, Fulton R. G, et al. Forecasting the prevalence of pelvic floor disorders in U.S. women: 2010 to 2050. *Obstet. Gynecol.* 114, 1278–1283 (2009).
20. Akkus Y, Pinar G. Evaluation of the Prevalence, Type, Severity, and Risk Factors of Urinary Incontinence and Its Impact on Quality of Life Among Women in Turkey. *Int Urogynecol J.* 2016 Jun;27(6):887-93. doi: 10.1007/s00192-015-2904-5. Epub 2015 Dec 5. PMID: 26638154
21. Demir O, Sen V, Irer B, et al. Prevalence and Possible Risk Factors for Urinary Incontinence: A Cohort Study in the City of Izmir. *Urol. Int.* 2017;99(1):84-90. doi: 10.1159/000466705. Epub 2017 Mar 22. PMID: 28329752.
22. Gözükara F, Koruk İ, Kara B (2015). Urinary incontinence among women registered with a family health center in the southeastern Anatolia region and the factors affecting its prevalence. *Turk J MedSci* 45:931–939.
23. Peng Y, Miller B.D, Boone T.B, et al. Modern Theories of Pelvic Floor Support:A Topical Review of Modern Studies on Structural and Functional Pelvic Floor Support from Medical Imaging, Computational Modeling, and Electromyographic Perspectives. *Curr. Urol. Rep.* 2018,19, 9.
24. Eickmeyer S.M. Anatomy and Physiology of the Pelvic Floor. *Phys. Med. Rehabil. Clin. N. Am.* 2017, 28, 455–460.
25. Bharucha A.E. Pelvic floor: Anatomy and function. *Neurogastroenterol. Motil.* 2006, 18, 507–519.
26. Gülpınar Ö, Güçlü A.G (2015). *Pelvik Anatomi. Rahmi Onur, Ömer Bayrak (ed).* Üriner İnkontinans Tanı ve Tedavi. İstanbul:Türk Uroloji Derneği, Nobel Tip Kitabevleri
27. MacLennan G. T. (2012). Hinman's Atlas of Urosurgical Anatomy. Elsevier Health Sciences.
28. Vasavada S.P, Appell R, Sand P. K, et al. *Female Urology, Urogynecology and Voiding Dysfunction* Taylor & Francis, 2005.
29. D'Ancona CD, Haylen BT, Oelke M, et al. The International Continence Society (ICS) Report on The Terminology for Adult Male Lower Urinary Tract and Pelvic Floor Symptoms and Dysfunction. *Neurourol. Urodyn.* 2019, 38, 433–477
30. Sountoulidis P, Stress Urinary Incontinence. International Continence Society. Available online: <https://www.ics.org/committees/standardisation/terminologydiscussions/sui>.
31. Urgency Urinary Incontinence. International Continence Society. Available online: <https://www.ics.org/glossary/sign/Urgencyurinaryincontinence>.
32. Rademakers K, Female Mixed Urinary Incontinence (MUI). International Continence Society. Available online: <https://www.ics.org/committees/standardisation/>

- terminologydiscussions/femalemixedurinaryincontinencemui.*
33. Hillary C. J, Osman N, Chapple C. Considerations in the modern management of stress urinary incontinence resulting from intrinsic sphincter deficiency. *World J. Urol.* 33, 1251–1256 (2015).
 34. Roosen A, Chapple R. C, Dmochowski R. R, et al. A re-focus on the bladder as the originator of storage lower urinary tract symptoms: a systematic review of the latest literature. *Eur. Urol.* 56, 810–820 (2009).
 35. De Groat W. C, Griffiths D, Yoshimura N. *Compr Physiol.* 2015 Jan;5(1):327-96. doi: 10.1002/cphy.c130056.
 36. Li M, Sun Y, Simard J. M, et al. Increased transient receptor potential vanilloid type 1 (TRPV1) signaling in idiopathic overactive bladder urothelial cells. *Neurourol. Urodyn.* 30, 606–611 (2011).
 37. Reid G, Burton J. P. Urinary incontinence: making sense of the urinary microbiota in clinical urology. *Nat. Rev. Urol.* 13, 567–568 (2016).
 38. National Institute for Health and Care Excellence (2015a) Urinary incontinence in women: management [CG171]. <http://tinyurl.com/jcmvyl>.
 39. National Institute for Health and Care Excellence (2015b) Lower urinary tract symptoms in men: management [CG97]. <http://tinyurl.com/z33bgyn>.
 40. DuBeau CE. Urinary Incontinence. In: *Geriatric Review Syllabus: A Core Curriculum in Geriatric Medicine*, 7th ed, Pacala JT and Sullivan GM, eds. New York: American Geriatric Society, 2010.
 41. Wagg A, Gibson W, Ostaszkiewicz J, et al. Urinary incontinence in frail elderly persons: Report from the 5th International Consultation on Incontinence. *Neurourology and Urodynamics* 34:398–406 (2015).
 42. Abrams P, Cardozo L, Khoury S, et al. In: *Incontinence. 5. International Incontinence Consultancy*. Abrams P editors. ICUD-Eau; 2013. 1895-1956
 43. Martin JL, Williams KS, Sutton AJ, et al. Systematic review and meta-analysis of diagnostic evaluation methods for urinary incontinence. *Neurourol Urodyn.* 2006; 25: 674-683
 44. Swift S. E, Yoon E. A. Test-retest reliability of the cough stress test in the evaluation of urinary incontinence. *Obstet. Gynecol.* 94, 99–102 (1999).
 45. Hsu T. H, Rackley R. R, Appell R. A. The supine stress test: a simple method to detect intrinsic urethral sphincter dysfunction. *J. Urol.* 162, 460–463 (1999).
 46. Ghoniem G, Stanford E, Kenton K, et al. Evaluation and outcome measures in the treatment of female urinary stress incontinence: International Urogynecological Association (IUGA) guidelines for research and clinical practice. *Int. Urogynecol. J.* 19, 5–33 (2007).
 47. Bo K, Frawley HC, Haylen BT, et al. An International Urogynecological Association (IUGA)/International Continence Society (ICS) joint report on the terminology for the conservative and nonpharmacological management of female pelvic floor dysfunction. *Int Urogynecol J.* 2017 Feb;28(2):191-213. doi: 10.1007/s00192-016-3123-4. Epub 2016 Dec 5. PMID: 27921161.
 48. Karateke A. Üriner İnkontinanslı Hastada Spesifik Ürojinekolojik Testler. Yalçın Ö, editör. Temel Ürojinekoloji. Ankara: Nobel Tip Kitapevleri; 2009 s 177-9.
 49. Bo K, Sherburn M. Evaluation of female pelvic-floor muscle function and strength. *Phys Ther.* 2005;85(3):269–82.
 50. Smith A, Bevan D, Douglas H. R, et al. Management of urinary incontinence in women: summary of updated NICE guidance. *BMJ* 347, f5170 (2013).
 51. Haylen BT, de Ridder D, Freeman RM, et al. An International Urogynecological Association (IUGA)/International Continence Society (ICS) joint report on the terminology for female pelvic floor dysfunction. *Neurourol Urodyn.* 2010;29(1):4–20. doi:10.1002/nau.20798.
 52. Bogusiewicz M, Monist M, Gałczyński K, et al. Both the middle and distal sections of the urethra may be regarded as optimal targets for 'outsidein' transobturator tape placement. *World J. Urol.* 32, 1605–1611 (2014).
 53. Herderschee R, HaySmith E. J. C, Herbison G. P, et al. Feedback or biofeedback to augment pelvic floor muscle training for urinary incontinence in women. *Cochrane Database Syst. Rev.* 7, CD009252 (2011).
 54. Dumoulin C, Bourbonnais D, Lemieux MC. Development of adynamometer for measuring the isometric force of the pelvic floor musculature. *Neurourol Urodyn.* 2003;22(7):648–53. doi:10.1002/nau.10156.
 55. Khatri G, de Leon A. D, Lockhart M. E. (2017). MR Imaging of the Pelvic Floor. *Magnetic Resonance Imaging Clinics of North America*, 25(3), 457–480. doi:10.1016/j.mric.2017.03.003
 56. Yang A, Mostwin JL, Rosenshein NB, et al. Pelvic floor descent in women: dynamic evaluation with fast MR imaging and cinematic display. *Radiology* 1991;179(1):25–33.
 57. Lockhart ME, Fielding JR, Richter HE, et al. Reproducibility of dynamic MR imaging pelvic measurements: a multi-institutional study. *Radiology* 2008; 249(2):534–40
 58. Krhut J, Zachoval R, Rosie P. F. W. M, et al. (2017). ICS Educational Module: Electromyography in the assessment and therapy of lower urinary tract dysfunction in adults. *Neurourology and Urodynamics*, 37(1), 27–32. doi:10.1002/nau.23278
 59. Schurch B, Iacovelli V, Averbeck M. A, et al. (2017). Urodynamics in patients with spinal cord injury: A clinical review and best practice paper by a working group of The International Continence Society Urodynamics Committee. *Neurourology and Urodynamics*, 37(2), 581-591. doi:10.1002/nau.23369
 60. Spettel S, Kalorin C, De E. Combined diagnostic modalities improve detection of detrusor external sphincter dyssynergia. *ISRN Obstet Gynecol.* 2011;2011:323421.
 61. Çoşkun B, Kadihasanoğlu M (2015). Üriner İnkontinans-Ta Konservatif Tedavi Seçenekleri. Rahmi Onur, Ömer Bayrak (ed). Üriner İnkontinans Tanı ve Tedavi. İstanbul: Türk Üroloji Derneği, Nobel Tip Kitabevleri.
 62. Lucas MG, Bosch RJ, Burkhard FC, et al. EAU guidelines on assessment and nonsurgical management of urinary incontinence. *European Urology* 2012;62:1130–42.
 63. Hay-Smith EJ, Herderschee R, Dumoulin C, et al. Comparisons of approaches to pelvic floor muscle training for urinary incontinence in women. *Cochrane Database Syst Rev* 2011;7

64. Fanti JA, Wyman JF, McClish DK, et al. Efficacy of bladder training in older women with urinary incontinence. *JAMA: The Journal Of The American Medical Association* 1991;265:609-13.
65. Roe B, Ostaszkiewicz J, Milne J, et al. Systematic reviews of bladder training and voiding programmes in adults: a synopsis of findings from data analysis and outcomes using metanalysis techniques. *Journal of Advanced Nursing* 2007;15-31.
66. Thuroff JW, Abrams P, Andersson KE, et al. EAU guidelines on urinary incontinence. *European Urology* 2011;59:387-400
67. Cacciari L.P, Dumoulin C, Hay-Smith E.J. Pelvic floor muscle training versus treatment, or inactive control treatments, for urinary incontinence in women: A cochrane systematic review abridged republication. *Braz. J. Phys. Ther.* 2019, 23, 93-107.
68. Sayilan A. A, Özbaş A. The Effect of Pelvic Floor Muscle Training on Incontinence Problems after Radical Prostatectomy. *Am. J. Mens Health.* 2018, 12, 1007-1015.
69. Jahromi M.K, Talebizadeh M, Mirzaei M. The Effect of Pelvic Muscle Exercises on Urinary Incontinency and Self-Esteem of Elderly Females With Stress Urinary Incontinency, 2013. *Glob. J. Health Sci.* 2014, 7, 71-79.
70. Dumoulin C, Hay-Smith E.J, Mac H-S.G. Pelvic floor muscle training versus no treatment, or inactive control treatments, for urinary incontinence in women: A short version Cochrane systematic review withmeta-analysis. *Cochrane Database Syst. Rev.* 2014, 5, CD005654.
71. Nie X, Ouyang Y, Wang, L, et al. A Meta-Analysis of Pelvic Floor Muscle Training for The Treatment of Urinary Incontinence. *Int. J. Gynaecol. Obstet.* 2017, 138, 250-255.
72. Castro RA, Arruda RM, Zanetti MRD, et al. Single-blind, randomized, controlled trial of pelvic floor muscle training, electrical stimulation, vaginal cones and no active treatment in the management of stress urinary incontinence. *Clinics* 2008;64:465-72.
73. Goode PS, Burgio KL, Locher JL, et al. Effect of behavioral training with or without pelvic floor electrical stimulation on stress incontinence in women: a randomized controlled trial. *JAMA: The Journal Of The American Medical Association* 2003;290:345-52.
74. Filocamo MT, Li Marzi V, Del Popolo G, et al. Effectiveness of early pelvic floor rehabilitation treatment for postprostatectomy incontinence. *European Urology* 2005;48:734-8.
75. Karan A. Üriner İnkontinanssta Konservatif Rehabilitasyon Programları. Yalçın Ö, editör. Temel Ürojinekoloji. Ankara: Nobel Tip Kitapevleri; 2009 s 303-15
76. Harvey MA. Pelvic floor exercises during and after pregnancy: a systematic review of their role in preventing pelvic floor dysfunction. *J Obstet Gynaecol Can* 2003; 25(6): 451-3.
77. Berghmans LC, Frederiks CM, de Bie RA, et al. Efficacy of biofeedback, when included with pelvic floor muscle exercise treatment, for genuine stress incontinence. *Neurology and Urodynamics* 1996;15:37-52.
78. Schreiner L, Santos T.G, Souza A.B, et al. Electrical stimulation for urinary incontinence in women: A systematic review. *Int. Braz. J. Urol.* 2013, 39, 454-464.
79. Wang S, Zhang S. Simultaneous perineal ultrasound and vaginal pressure measurement prove the action of electrical pudendal nerve stimulation in treating female stress incontinence. *BJU Int.* 2012, 110, 1338-1343.
80. Scott K.M. Pelvic Floor Rehabilitation in the Treatment of Fecal Incontinence. *Clin. Colon Rectal Surg.* 2014, 27, 99-105.
81. Faïena I, Patel N, Parikh J.S, et al. Conservative Management of Urinary Incontinence in Women. *Rev. Urol.* 2015, 17, 129-139.
82. Chen HY, Chang WC, Lin WC, et al. Efficacy of pelvic floor rehabilitation for treatment of genuine stress incontinence. *Journal of the Formosan Medical Association = Taiwan yi zhi* 1999;98:271-6.
83. Quek P. A critical review on magnetic stimulation: What is its role in the management of pelvic floor disorders? *Curr. Opin. Urol.* 2005, 15, 231-235.
84. Yamanishi T, Suzuki T, Sato R, et al. Effects of magnetic stimulation on urodynamic stress incontinence refractory to pelvic floor muscle training in a randomized sham controlled study. *Low Urin Tract Symptoms* 2019, 11, 61-65.
85. Yamanishi T, Homma Y, Nishizawa O, et al. SMN-X Study Group. Multicenter,randomized, sham-controlled study on the efficacy ofmagnetic stimulation for women with urgency urinaryincontinence. *Int. J. Urol.* 2014, 21, 395-400.
86. Morris A.R, O'Sullivan R, Dunkley P, et al. Extracorporeal Magnetic Stimulation is of Limited Clinical Benefit to Women with Idiopathic Detrusor Overactivity: A Randomized Sham Controlled Trial. *Eur. Urol.* 2007, 52, 876-881.
87. Yamanishi T, Kaga K, Fuse M, et al. Neuromodulation for the treatment of lowerurinary tract symptoms. *Low. Urin. Tract Symptoms* 2015, 7, 121-132.
88. Karatrantou K, Biliò P, Bogdani G.C, et al. Effects of whole-bodyvibration training frequency on neuromuscular performance: A randomized controlled trail. *Biol. Sport* 2019, 36, 273-282.
89. Guedes-Aguilar E.O, da Cunha de Sá-Caputo D, Moreira-Marconi E, et al. Effect of whole-body vibration exercisesin the pelvic floor muscles of healthy and unhealthy individuals: A narrative review. *Transl. Androl. Urol.* 2019, 8, 395-404
90. Luginbuehl H, Lehmann C, Gerber R, et al. Continuous-versus intermittent stochastic resonance whole body vibration and its effect on pelvic floor muscle activity. *Neurourol. Urodyn.* 2012, 31, 683-687.
91. Sønksen J, Ohl D.A, Bonde B, et al. Transcutaneous mechanical nerve stimulation using perineal vibration: A novel method for the treatment of female stress urinary incontinence. *J. Urol.* 2007, 178, 2025-2028.