

ÜROGENİTAL SİSTEM ACİLLERİNDE RADYOLOJİK GÖRÜNTÜLEME

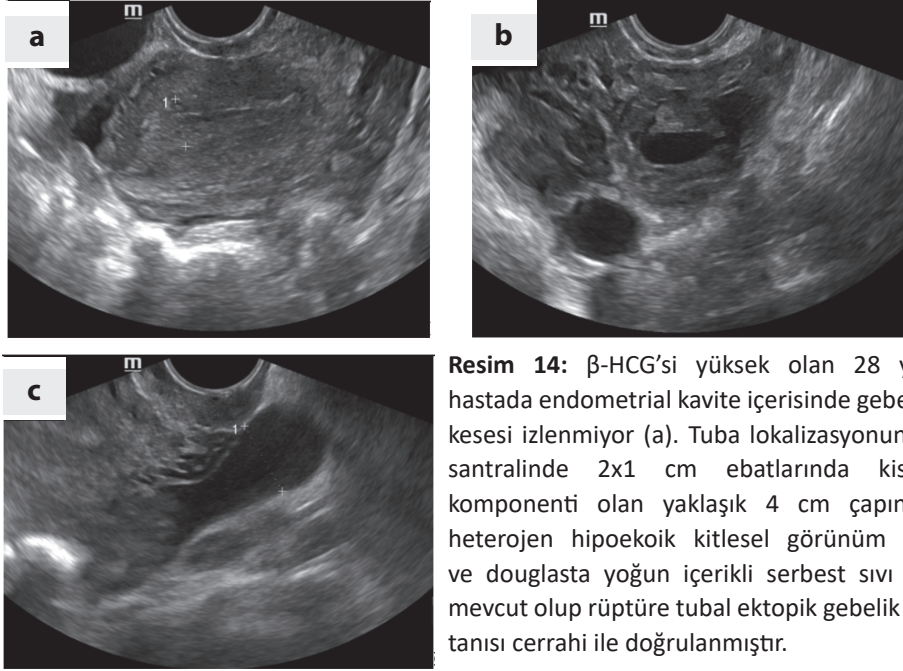
Ali Mahir GÜNDÜZ
Nurşen TOPRAK

Ürogenital sistemin non-travmatik acil patolojileri sık görülen hastalıklar arasındadır. Bu hastalıklar arasında en sık görülenler ile tanıda kullanılan radyolojik görüntüleme yöntemleri konumuzun ana temasıdır. Üriner sistem ve genital sistem ana başlıkları altında anlatacağımız başlıca acil patolojiler ve radyolojik bulguları şu şekildedir.

I- ÜRİNER SİSTEM

Ürolitiazis

Ürolitiazis böbrekler, üreterler, mesane veya uretrada taş mevcudiyetidir. Üriner sistem taşları lokalizasyon ve boyutuna bağlı olarak obstrüktif etki gösterebilir ve sonuçta kalisiyel, pelviaklisiyel ve üreteral dilatasyona yol açabilir. Üreter kalibrasyonu üreteropelvik bileşke, iliak damarları çaprazladığı düzeyde ve üreterovezikal bileşke daralmakta olup bu lokalizasyonlardaki taşların obstrüksiyona yol açma olasılıkları daha yüksektir. Akut, kolik tarzda yan ağrısı ile gelen ve ürolitiazis ön tanısı konulan hastalarda kullanılan radyolojik yöntemler direkt üriner sistem grafisi (DÜSG), ultrasonografi (US) ve bilgisayarlı tomografi (BT)'dir. DÜSG, ilk kullanılan radyolojik yöntem olup ürik asit ve ksantin taşları dışındaki çoğu taş DÜSG ile görülebilir ve yüksek dansitede izlenirler (Resim 1). Ürolitiazis tanısında en sık kullanılan yöntem olan US ucuz, non-invaziv ve radyasyon içermeyen bir modalitedir. Üriner sistem taşları US'de hiperekojen olarak izlenir (Resim 2). US'nin böbrek taşlarını saptamadaki sensitivitesi %96 olup akut yan ağrısı ile gelen hastalardaki üriner taşları saptama sensitivitesi ise



Resim 14: β -HCG'si yüksek olan 28 yaş hastada endometrial kavite içerisinde gebelik kesesi izlenmiyor (a). Tuba lokalizasyonunda santralinde 2x1 cm ebatlarında kistik komponenti olan yaklaşık 4 cm çapında heterojen hipoekoik kitlesel görünüm (b) ve douglasta yoğun içerikli serbest sıvı (c) mevcut olup rüptüre tubal ektopik gebelik ön tanısı cerrahi ile doğrulanmıştır.

Anahtar Kelimeler: Ürogenital, ultrasonografi, bilgisayarlı tomografi

KAYNAKÇA

1. Tublin M, Thurston W, Wilson SR. The Kidney and Urinary Tract. In: Rumack CM, Wilson SR, Charboneau JW, Levine D, eds. Diagnostic Ultrasound volume 1: 4thed. Philadelphia, US: Elsevier/Mosby; 2011. p.317-391.
2. Tekgül S, Riedmiller H, Beurton D, et al. EAU Guidelines on Pediatric Urology (Updated 2008). Urinary Stone Disease, pp: 52-63.
3. Chong ST, Kielar AZ, Liu PS, et al. Renal and Adrenal Emergencies. In: Mirvis SE, Kubal WS, Shanmuganathan K, eds. Problem Solving in Emergency Radiology. Philadelphia, PA, USA: Elsevier Saunders; 2015. p.414-425.
4. Coll DM, Varanelli MJ, Smith RC. Relationship of spontaneous passage of ureteral calculi to stone size and location as revealed by unenhanced helical CT. AJR Am J Roentgenol. 2002;178(1):101-103.
5. Dillon E, Ryoff A. A 10 year audit of antenatal ultrasound detection of renal disease. Br J Radiol. 1998; 71: 497-500.
6. Lucy M, Osborn MD, Thomas G, et al. Pediatrics. Murat Y. (Çeviren), İstanbul: Güneş Kitabevi. 2007; 1140-1358.
7. Marcus R. Assessment and management of newborn. World J Urol. 2004; 22: 73-78.
8. Stojadinović M, et al: Ultrasonographic and computed tomography findings in renal suppurations: performance indicators and risks for diagnostic failure. Urol int. 2008;80(4): 389-397.

9. Demertzis J, et al: State of the art: Imaging of renal infections. *Emerg Radiol.* 2007;14(1): 13-22.
10. Izumi K, et al: Ectopic ureter accompanied by giant ureteral stone and pyonephrosis. *Int J Urol.* 2007;14(9):856-858.
11. Rasmussen PE, Nielsen FR. Hydronephrosis during pregnancy: A literature survey. *Eur J Obstet Gynecol Reprod Biol.* 1988;27: 249.
12. Faundes A, Bricola-Filho M, Pinto e Silva JL. Dilatation of the urinary tract during pregnancy: Proposal a curve of maximal caliceal diameter by gestational age. *Am J Obstet Gynecol.* 1998;178: 1082- 1086.
13. Weiss JP, Hanno PM. Pregnancy and the Urologist. AUA update series. 1990;9: 266-271.
14. Eckford SD, Gingell JC. Ureteric obstruction in pregnancy diagnosis and management. *Br J Obstet Gynaecol.* 1991;98: 1137- 1140.
15. Scarpa RM, Lisa A, Usai E. Diagnosis and treatment of ureteral calculi during pregnancy with rigid ureteroscopes. *J Urol.* 1996;155: 875- 877.
16. National Guideline C. ACR Appropriateness Criteria; acute pyelonephritis. Rockville MD: Agency for Healthcare Research and Quality (AHRQ).
17. Hammond NA, Nikolaidis P, Miller FH. Infectious and inflammatory diseases of the kidney. *Radiol Clin North Am.* 2012;50(2):259-270, vi.
18. Tracy CR, Steers WD, Costabile R. Diagnosis and management of epididymitis. *Urol Clin North Am.* 2008;35(1):101-108; vii.
19. Ciftci AO, Senocak ME, Tanyel FC, et al. Clinical predictors for differential diagnosis of acute scrotum. *Eur J Pediatr Surg.* 2004;14(5):333-338.
20. Gorman B. The Scrotum. In: Rumack CM, Wilson SR, Charboneau JW, Levine D, eds. *Diagnostic Ultrasound volume 1: 4thed.* Philadelphia, US: Elsevier/Mosby; 2011. p.864-869.
21. Aganovic L, Cassidy F. Imaging of the scrotum. *Radiol Clin North Am.* 2012;50(6):1145-1165.
22. Visser AJ, Heyns CF. Testicular function after torsion of the spermatic cord. *BJU Int.* 2003;92(3):200-203.
23. Beni-Israel T, Goldman M, Bar Chaim S, et al. Clinical predictors for testicular torsion as seen in the pediatric ED. *Am J Emerg Med.* 2010;28(7):786-789.
24. Davis JE, Silverman M. Scrotal emergencies. *Emerg Med Clin North Am.* 2011;29(3):469-484.
25. Baker LA, Sigman D, Mathews RI, et al. An analysis of clinical outcomes using color doppler testicular ultrasound for testicular torsion. *Pediatrics.* 2000;105(3 Pt 1):604-607.
26. Gunther P, Schenk JP, Wunsch R, et al. Acute testicular torsion in children: the role of sonography in the diagnostic workup. *Eur Radiol.* 2006;16(11):2527-2532.
27. Kapasi Z, Halliday S. Best evidence topic report. Ultrasound in the diagnosis of testicular torsion. *Emerg Med J.* 2005;22(8):559-560.
28. Tahmaz L, Erdemir F, Kibar Y, et al. Fournier's gangrene: Report of thirty-three cases and a review of the literature, *International Journal of Urology.* 2006;13:960-967.
29. Rajan DK, Scharer KA. Radiology of Fournier's gangrene. *AJR Am J Roentgenol.* 1998;170(1):163-168.
30. Zacharias N, Velmahos GC, Salama A, et al. Diagnosis of necrotizing soft tissue infections by computed tomography. *Arch Surg.* 2010;145(5):452-455.

31. Abatangelo L, Okereke L, Parham-Foster C, et al. If pelvic inflammatory disease is suspected empiric treatment should be initiated. *J Am Acad Nurse Pract.* 2010;22(2):117-122.
32. Stokes T. Screening for Chlamydia in general practice: a literature review and summary of the evidence. *J Public Health Med.* 1997;19(2):222-232.
33. Schmitz G, Tibbles C. Genitourinary emergencies in the nonpregnant woman. *Emerg Med Clin North Am.* 2011;29(3):621-635.
34. Benacerraf BR. Why has computed tomography won and ultrasound lost the market share of imaging for acute pelvic conditions in the female patient? *J Ultrasound Med.* 2010;29(3): 327-328.
35. Shia S. Gynecology. In: Rumack CM, Wilson SR, Charboneau JW, Levine D, eds. *Diagnostic Ultrasound volume 1: 4thed.* Philadelphia, US: Elsevier/Mosby; 2011. p.547-612.
36. Bennett GL, Slywotzky CM, Giovanniello G. Gynecologic causes of acute pelvic pain: spectrum of CT findings. *Radiographics.* 2002;22(4):785-801.
37. Sam JW, Jacobs JE, Birnbaum BA. Spectrum of CT findings in acute pyogenic pelvic inflammatory disease. *Radiographics.* 2002;22 (6):1327-1334.
38. Cicchiello LA, Hamper UM, Scoutt LM. Ultrasound evaluation of gynecologic causes of pelvic pain. *Obstet Gynecol Clin North Am.* 2011;38(1):85-114, viii.
39. Amirbekian S, Hooley RJ. Ultrasound evaluation of pelvic pain. *Radiol Clin North Am.* 2014;52(6):1215-1235.
40. Patel MD, Feldstein VA, Filly RA. The likelihood ratio of sonographic findings for the diagnosis of hemorrhagic ovarian cysts. *J Ultrasound Med.* 2005;24(5):607-614.
41. Jain KA. Sonographic spectrum of hemorrhagic ovarian cysts. *J Ultrasound Med.* 2002;21(8):879-886.
42. McWilliams GD, Hill MJ, Dietrich CS 3rd. Gynecologic emergencies. *Surg Clin North Am.* 2008;88(2):265-283, vi.
43. White M, Stella J. Ovarian torsion: 10-year perspective. *Emerg Med Australas.* 2005;17 (3):231-237.
44. Oltmann SC, Fischer A, Barber R, et al. Cannot exclude torsion a 15-year review. *J Pediatr Surg.* 2009;44(6): 1212-1216.
45. Gorkemli H, Camus M, Clasen K. Adnexal torsion after gonadotrophin ovulation induction for IVF or ICSI and its conservative treatment. *Arch Gynecol Obstet.* 2002;267(1):4-6.
46. Mashlach R, Melamed N, Gilad N, et al. Sonographic diagnosis of ovarian torsion: accuracy and predictive factors. *J Ultrasound Med.* 2011;30(9):1205-1210.
47. Wilkinson C, Sanderson A. Adnexal torsion a multimodality imaging review. *Clin Radiol.* 2012;67(5):476-483.
48. Tepper R, Zalel Y, Goldberger S, et al. Diagnostic value of transvaginal color Doppler flow in ovarian torsion. *Eur J Obstet Gynecol Reprod Biol.* 1996;68(12):115-118.
49. Hiller N, Appelbaum L, Simanovsky N, et al. CT features of adnexal torsion. *AJR Am J Roentgenol.* 2007;189(1):124-129.
50. Tikkanen M. Placental abruption: epidemiology, risk factors and consequences. *Acta Obstet Gynecol Scand.* 2011;90(2):140-149.
51. Shipp TD. Sonographic Evaluation of the Placenta. In: Rumack CM, Wilson SR, Charboneau JW, Levine D, eds. *Diagnostic Ultrasound volume 2: 4thed.* Philadelphia, US: Elsevier/Mosby; 2011. p.1499-1526.

52. Hoover KW, Tao G, Kent CK. Trends in the diagnosis and treatment of ectopic pregnancy in the United States. *Obstet Gynecol.* 2010;115(3):495-502.
53. Bouyer J, Coste J, Fernandez H, et al. Sites of ectopic pregnancy: a 10 year population-based study of 1800 cases. *Hum Reprod.* 2002;17(12):3224-3230.
54. Westrom L, Bengtsson LP, Mardh PA. Incidence, trends, and risks of ectopic pregnancy in a population of women. *Br Med J (Clin Res Ed).* 1981;282(6257):15-18.
55. Bello GV, Schonholz D, Moshirpur J, et al. Combined pregnancy: the Mount Sinai experience. *Obstet Gynecol Surv.* 1986;41(10):603-613.
56. Condous G, Okaro E, Khalid A, et al. The accuracy of transvaginal ultrasonography for the diagnosis of ectopic pregnancy prior to surgery. *Hum Reprod.* 2005;20(5):1404-1409.
57. Levine D. Ectopic pregnancy. *Radiology.* 2007;245(2):385-397.
58. Dialani V, Levine D. Ectopic pregnancy: a review. *Ultrasound Q* 2004;20(3):105-117.
59. Kirk E, Papageorgiou AT, Condous G, et al. The diagnostic effectiveness of an initial transvaginal scan in detecting ectopic pregnancy. *Hum Reprod.* 2007;22(11): 2824-2828.