

7. BÖLÜM

ÜRİNER TRAKTUS ENFEKSİYONLARI

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GİRİŞ

Gebelik üriner sistem üzerine spesifik değişikliklere neden olmaktadır. Gebelikteki en sık bakteriyel enfeksiyonlar üriner sistem kaynaklıdır ve gebelikteki hastaneye yatış nedenleri arasında üst sıralarda yer almaktadır. Gebelikte meydana gelen fizyolojik değişiklikler nedeniyle üriner sistem enfeksiyonlarına yatkınlık oluşmaktadır. Üriner traktus enfeksiyonları üst (pyelonefrit) ve alt (sistit-üretirit) üriner sistem olmak üzere ikiye ayrılabilir. Gebelikteki en sık görülen üriner traktus enfeksiyonu asemptomatik bakteriüridir. Semptomatik olanlar ise sistit ve renal parankimin enfekte olduğu piyelonefrittir. En sık saptanan mikroorganizmalar gebe olmayan kadınlar ile aynıdır ve %90 etken Escherichia Coli (E.coli)' dir. Postpartum tedavi antepartum tedavi ile aynıdır. Prenatal takip etkin ve düzenli bir şekilde yapılırsa çoğu üriner enfeksiyonda tedavi ile tam iyileşme olasıdır.

Gebelikte Üriner Traktus Değişimleri

Üriner traktusta hem yapısal hem de fonksiyonel belirgin değişiklikler meydana gelmektedir. Gebelik haftası ilerledikçe böbrekler hacim olarak %25-35 büyür, kalıksler dilate olur. Renal pelvis hacminde yaklaşık 5-6 kat artış olur.

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ter doğuma kadar yerleştirebilir. Uterin bası nedeniyle bazen takılması çok zor olabilir. Eğer taş için mutlak operasyon düşünülür ise ikinci üçaydan sonra perkutanöz invaziv yöntemler denenebilir. Ancak gebelikte ekstrakorporeal shock wave litotripsi (ESWL) kontrendikedir (52).

Medikal tedavi sonrasında rekürrensler % 6-8 civarında izlenir (53,54). Rekürrenslerde komplikasyonlar ekarte edildikten sonra doğuma kadar gece yartnerken tek doz 100 mg nitrofurantoin ya da 250-500 mg sefalekssin verilebilir (41, 56). Baskılama tedavisi altındayken tekrarlama olursa antibiyotik duyarlılığı yapılmalıdır.

SONUÇ

Normal bir gebeliğin seyrinde oluşan fizyolojik değişikliklerden dolayı gebelikte üriner sistem infeksiyonlarına yatkınlık oluşmaktadır. İlk antenatal ziyarette idrar tahlili ve yapılabiliriyorsa mutlaka idrar kültürü yapılmalıdır. Gebelerde en sık sepsisin ürosepsis olduğu unutulmamalıdır. Gebe olmayan kadınlardan farklı olarak asemptomatik olan ancak bakteriürisi olan hastalar mutlaka tedavi edilmelidir. Asemptomatik bakteriüri ve pyelonefrit geçiren gebelerde vaka kontrol çalışmalarında preklampsi riskinde artış saptanmıştır (55). Rekürren üriner trakt enfeksiyonlarının önlenmesinde postkoital 250 mg sefalekssin ya da 50 mg nitrofurantoin takipte etkili bulunmuştur (56). Genelde uygun tedavi ile perinatal komplikasyonlar azaltılabilir. Sıklıkla akut süreçler olduğundan maternal kalıcı renal disfonksiyon nadirdir.

KAYNAKLAR

1. Faúndes A, Bricola-Filho M, Pinto e Silva JC: Dilatation of the urinary tract during pregnancy: proposal of a curve of maximal caliceal diameter by gestational age. *Am J Obstet Gynecol* 178:1082, 1998
2. Hussein W, Lafayette RA: Renal function in normal and disordered pregnancy. *Curr Opin Nephrol Hypertens* 23:46, 2014
3. Airoidi J, Weinstein L: Clinical significance of proteinuria in pregnancy. *Obstet Gynecol Surv* 62(2):117, 2007
4. Kuper SG, Tita AT, Youngstrom ML, et al: Baseline renal function tests and adverse outcomes in pregnant patients with chronic hypertension. *Obstet Gynecol*, 128(1):93, 2016
5. Brown MA, Holt JL, Mangos GK, et al: Microscopic hematuria in pregnancy: relevance to pregnancy outcome. *Am J Kidney Dis* 45:667, 2005

6. Putra LG, Minor TX, Bolton DM, et al: Improved assessment of renal lesions in pregnancy with magnetic resonance imaging. *Urology* 74:535, 2009
7. Piccoli GB, Attini R, Vasario E, et al: Pregnancy and chronic kidney disease: a challenge in all CKD stages. *Clin J Am Soc Nephrol* 5:844, 2010a
8. Lindheimer MD, Conrad KP, Karumanchi SA: Renal physiology and diseases in pregnancy. In Alpern R, Hebert S (eds): *Seldin and Giebisch's The Kidney*, 4th ed. London, Academic Press, 2007a
9. Piccoli GB, Daidola G, Attini R, et al: Kidney biopsy in pregnancy: evidence for counseling? A systematic narrative review. *BJOG* 120(4):412, 2013
10. McDonnold M, Friedman A, Raker C, et al: Is postpartum pyelonephritis associated with the same maternal morbidity as antepartum pyelonephritis? *J Matern Fetal Neonatal Med* 25(9):1709, 2012
11. Lucas MJ, Cunningham FG: Urinary infection in pregnancy. *Clin Obstet Gynecol* 36:855, 1993
12. Whalley PJ: Bacteriuria of pregnancy. *Am J Obstet Gynecol* 97:723, 1967
13. Schneeberger C, Geerlings SE, Middleton P, et al: Interventions for preventing recurrent urinary tract infection during pregnancy. *Cochrane Database Syst Rev* 7:CD009279, 2015
14. Smail FM, Vazquez JC: Antibiotics for asymptomatic bacteriuria in pregnancy. *Cochrane Database Syst Rev* 8:CD000490, 2015
15. Rogozinska E, Formina S, Zamora J et al.: Accuracy of onsite tests to detect asymptomatic bacteriuria in pregnancy. *Obstet Gynecol* 128:495, 2016
16. Rouse DJ, Andrews WW, Goldenberg RL, et al: Screening and treatment of asymptomatic bacteriuria of pregnancy to prevent pyelonephritis. A cost-effectiveness and cost benefit analysis. *Obstet Gynecol* 86:119, 1995
17. Schieve LA, Handler A, Hershow R, et al: Urinary tract infection during pregnancy: its association with maternal morbidity and perinatal outcome. *Am J Public Health* 84:405, 1994
18. Widmer M, Lopez I, Gülmezoglu AM, et al: Duration of treatment for asymptomatic bacteriuria during pregnancy. *Cochrane Database Syst Rev* 11:CD000491, 2015
19. Lucas MJ, Cunningham FG: Urinary tract infections complicating pregnancy. *Williams Obstetrics*, 19th ed. (Suppl 5). Norwalk, Appleton & Lange, February/March, 1994
20. Aslan D, Aslan G, Yamazhan M, et al. Voiding symptoms in pregnancy: an assessment with international prostate symptom score. *Gynecol Obstet Invest* 2003; 55:46.
21. Sekikubo M, Hedman K, Mirembe F, Brauner A. Antibiotic Overconsumption in Pregnant Women With Urinary Tract Symptoms in Uganda. *Clin Infect Dis* 2017; 65:544.
22. Hooton TM, Roberts PL, Cox ME, Stapleton AE. Voided midstream urine culture and acute cystitis in premenopausal women. *N Engl J Med* 2013; 369:1883.
23. Kunin CM, White LV, Hua TH. A reassessment of the importance of "low-count" bacteriuria in young women with acute urinary symptoms. *Ann Intern Med* 1993; 119:454.
24. Gupta K, Hooton TM, Naber KG, et al. International clinical practice guidelines for the treatment of acute uncomplicated cystitis and pyelonephritis in women: A 2010 update by the Infectious Diseases Society of America and the European Society for Microbiology and Infectious Diseases. *Clin Infect Dis* 2011; 52:e103.

25. Vazquez JC, Abalos E. Treatments for symptomatic urinary tract infections during pregnancy. *Cochrane Database Syst Rev* 2011; :CD002256.
26. Cunningham FG, Lucas MJ. Urinary tract infections complicating pregnancy. *Baillieres Clin Obstet Gynaecol* 1994; 8:353.
27. Cunningham FG, Lucas MJ, Hankins GD. Pulmonary injury complicating antepartum pyelonephritis. *Am J Obstet Gynecol* 1987; 156:797.
28. Snyder CC, Barton JR, Habli M, et al: Severe sepsis and septic shock in pregnancy: indications for delivery and maternal and perinatal outcomes. *J Matern Fetal Neonatal Med* 26(5):503, 2013
29. Jacobsson B, Hagberg G, Hagberg B, et al: Cerebral palsy in preterm infants: a population-based case-control study of antenatal and intrapartum risk factors. *Acta Paediatr* 91:946, 2002
30. Raz R, Sakran W, Chazan B, et al: Long-term follow-up of women hospitalized for acute pyelonephritis. *Clin Infect Dis* 37:1014, 2003
31. Hill JB, Sheield JS, McIntire DD, et al: Acute pyelonephritis in pregnancy. *Obstet Gynecol* 105:38, 2005
32. Gomi H, Goto Y, Laopaiboon M, et al. Routine blood cultures in the management of pyelonephritis in pregnancy for improving outcomes. *Cochrane Database Syst Rev* 2015; :CD009216.
33. Albright CM, Ali TN, Lopes V, et al. Lactic acid measurement to identify risk of morbidity from sepsis in pregnancy. *Am J Perinatol* 2015; 32:481.
34. Wing DA, Park AS, DeBuque L, et al: Limited clinical utility of blood and urine cultures in the treatment of acute pyelonephritis during pregnancy. *Am J Obstet Gynecol* 182:1437, 2000
35. Towers CV, Kaminskas CM, Garite TJ, et al. Pulmonary injury associated with antepartum pyelonephritis: can patients at risk be identified? *Am J Obstet Gynecol* 1991; 164:974.
36. Graham JM, Oshiro BT, Blanco JD, et al: Uterine contractions after antibiotic therapy for pyelonephritis in pregnancy. *Am J Obstet Gynecol* 168:577, 1993
37. Lamont RF: The pathophysiology of pulmonary edema with the use of beta-agonists. *BJOG* 107:439, 2000
38. Cox SM, Shelburne P, Mason R, et al. Mechanisms of hemolysis and anemia associated with acute antepartum pyelonephritis. *Am J Obstet Gynecol* 1991; 164:587.
39. Cavenee MR, Cox SM, Mason R, et al: Erythropoietin in pregnancies complicated by pyelonephritis. *Obstet Gynecol* 84:252, 1994
40. American College of Obstetricians and Gynecologists. Antimicrobial therapy for obstetric patients. *ACOG educational bulletin* 245. 1998; Washington, DC.
41. Wing DA, Hendershott CM, Debuque L, Millar LK. A randomized trial of three antibiotic regimens for the treatment of pyelonephritis in pregnancy. *Obstet Gynecol* 1998; 92:249.
42. Kahlmeter G. Prevalence and antimicrobial susceptibility of pathogens in uncomplicated cystitis in Europe. The ECO.SENS study. *Int J Antimicrob Agents* 2003; 22 Suppl 2:49.

43. Naber KG, Schito G, Botto H, et al. Surveillance study in Europe and Brazil on clinical aspects and Antimicrobial Resistance Epidemiology in Females with Cystitis (ARESC): implications for empiric therapy. *Eur Urol* 2008; 54:1164.
44. Zhanel GG, Hisanaga TL, Laing NM, et al. Antibiotic resistance in *Escherichia coli* outpatient urinary isolates: final results from the North American Urinary Tract Infection Collaborative Alliance (NAUTICA). *Int J Antimicrob Agents* 2006; 27:468.
45. Warren JW, Abrutyn E, Hebel JR, et al. Guidelines for antimicrobial treatment of uncomplicated acute bacterial cystitis and acute pyelonephritis in women. Infectious Diseases Society of America (IDSA). *Clin Infect Dis* 1999; 29:745.
46. American Academy of Pediatrics Committee on Fetus and Newborn and American College of Obstetricians and Gynecologists Committee on Obstetric Practice. Guidelines for Perinatal Care, 8th, Kilpatrick SJ, Papile L (Eds), 2017
47. Seidman DS, Soriano D, Dulitzki M, et al: Role of renal ultrasonography in the management of pyelonephritis in pregnant women. *J Perinatol*
48. Butler EL, Cox SM, Eberts E, et al: Symptomatic nephrolithiasis complicating pregnancy. *Obstet Gynecol* 96:753, 2000
49. Spencer JA, Chahal R, Kelly A, et al: Evaluation of painful hydronephrosis in pregnancy: magnetic resonance urographic patterns in physiological dilatation versus calculous obstruction. *J Urol* 171:256, 2004
50. Thompson C, Verani R, Evanoff G, Weinman E. Suppurative bacterial pyelonephritis as a cause of acute renal failure. *Am J Kidney Dis* 1986; 8:271.
51. Abedi AR, Allameh F, Razzaghi MR, et al. The Efficacy and Safety of Laser Lithotripsy in Pregnancy. *J Lasers Med Sci*. 2017;8(2):84-87. doi:10.15171/jlms.2017.15
52. Lenke RR, VanDorsten JP, Schiffrin BS. Pyelonephritis in pregnancy: a prospective randomized trial to prevent recurrent disease evaluating suppressive therapy with nitrofurantoin and close surveillance. *Am J Obstet Gynecol* 1983; 146:953.
53. Harris RE, Gilstrap LC 3rd. Prevention of recurrent pyelonephritis during pregnancy. *Obstet Gynecol* 1974; 44:637.
54. Millar LK, Wing DA, Paul RH, Grimes DA. Outpatient treatment of pyelonephritis in pregnancy: a randomized controlled trial. *Obstet Gynecol* 1995; 86:560.
55. Minassian C, Thomas SL, Williams DJ, et al. Acute maternal infection and risk of pre-eclampsia: a population-based case-control study. *PLoS One* 2013; 8:e73047.
56. Pfau A, Sacks TG. Effective prophylaxis for recurrent urinary tract infections during pregnancy. *Clin Infect Dis* 1992; 14:810.