GENİTOÜRİNER SİSTEM ENFEKSİYONLARI OLGU SUNUMLARI

KLİMİK ANKARA TOPLANTISI

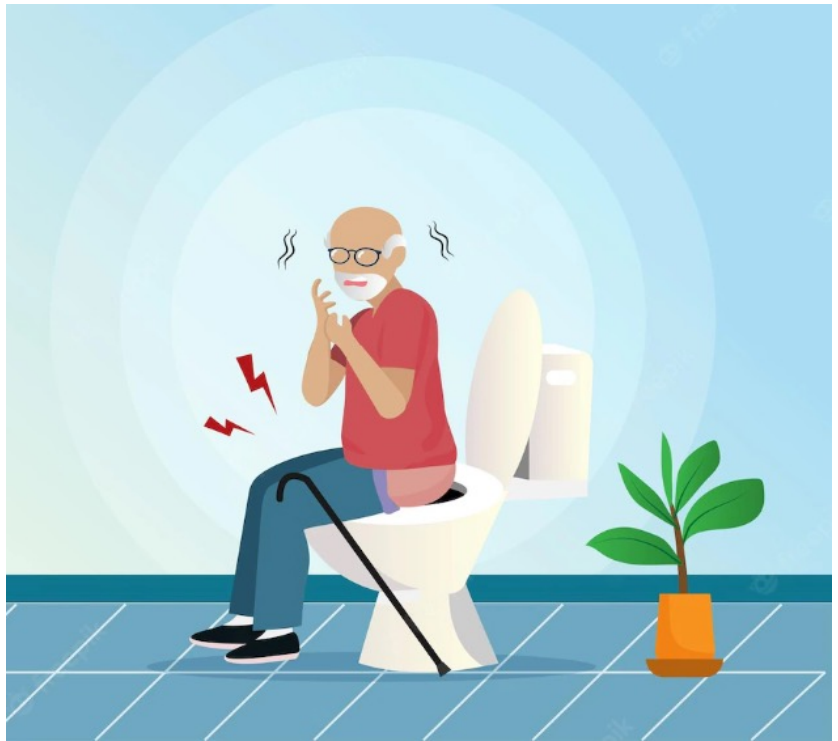
25 OCAK 2023

Dr. Tunahan Ayaz
Prof. Dr. Ümit Savaşçı

- 59 yaş erkek
- Dizüri, pollaküri, skrotal ağrı (2 ay)
- Oral siprofloksasin, azitromisin, fosfomisin, sefuroksim aksetil, doksisiklin

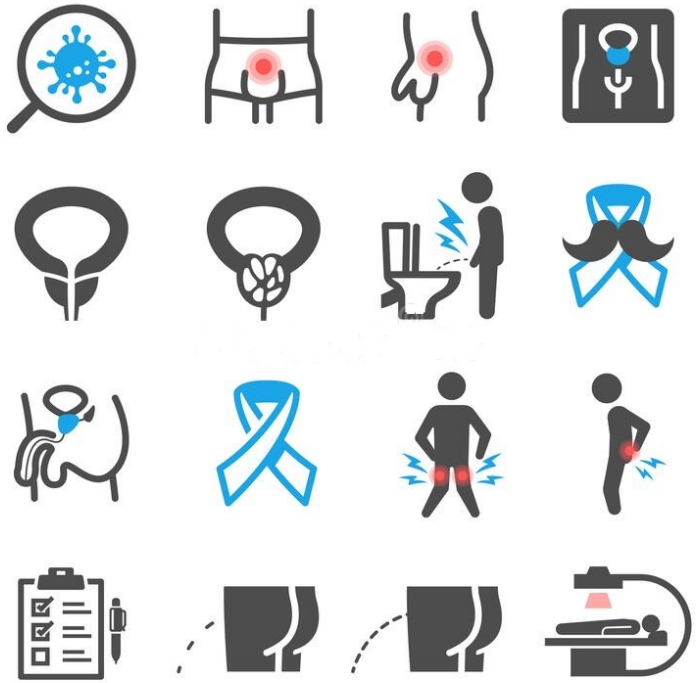
Özgeçmiş

- DM (10 yıl)
- HT (7 yıl)
- SVO (3 yıl önce)
- Konstipasyon nedeniyle rektal sfinkter operasyonu! (3 yıl önce)



Fizik Muayene

- Ateş: 38.3°C
- AKB: 117/78 mmHg
- KTA: 99/dakika
- SS: 14/dakika

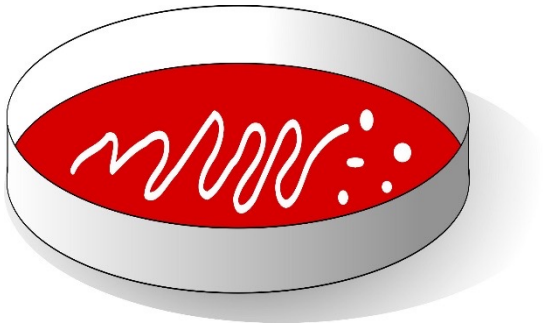


- Abdominal distansiyon
- Batında yaygın hassasiyet
- Skrotal hiperemi
- Sol skrotal hassasiyet

Laboratuvar

- WBC: 5.400 hücre/µL
- HB: 10,7 g/dL
- PLT: 141.000 hücre/µL
- AKŞ: 283 mg/dL
- KREATİNİN: 1,42 mg/dL
- SEDİMENTASYON: 112 mm/h
- CRP: 70 mg/L
- PCT: 2,77 ng/mL
- TİT 90 lökosit/HS 25 eritrosit/HS

- Hasta akut bakteriyel prostatit ön tanısıyla yatırıldı.
- İdrar kültürü ve 3 set kan kültürü alındı.



NIH Prostatit Sınıflandırması (1999)

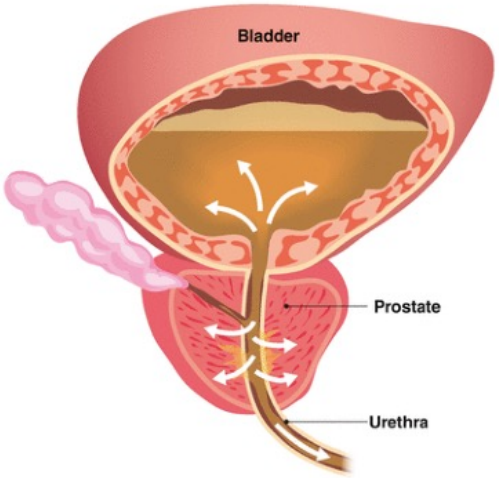
Kategori	Tanım
I	Akut bakteriyel prostatit
II	Kronik bakteriyel prostatit
III	Bakteriyel olmayan kronik prostatit/kronik pelvik ağrı sendromu
IV	Asemptomatik prostatit

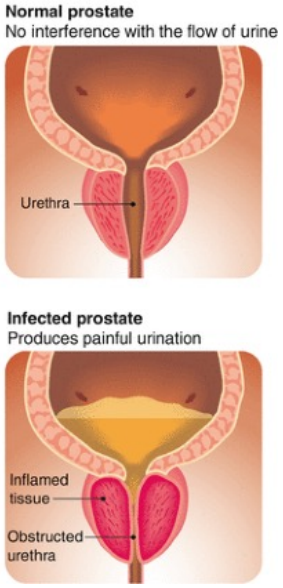
20 yaş üzeri erkeklerde %2-12
Tüm prostatitlerin %10'dan azı bakteriyel
Kronik prostatitte semptomlar en az 3 aydır mevcut

Krieger JN, Nyberg L Jr, Nickel JC (1999) NIH consensus definition and classification of prostatitis. JAMA 282(3):236–237
Schaeffer AJ, Wendel EF, Dunn JK, Grayhack JT. Prevalence and significance of prostatic inflammation. J Urol 1981;125:215–9.
Mody, L., et al. A targeted infection prevention intervention in nursing home residents with indwelling devices a randomized clinical trial. JAMA Internal Med, 2015. 175: 714.

Patogenez

- Asendan enfeksiyon(İntraprostatik idrar reflüsü)
- Doğrudan (prostat biyopsisi vs.)
- Lenfatik-hematojen





Wagenlehner FM, Pilatz A, Bschleipfer T. et al; Bacterial prostatitis; World J Urol . 2013 Aug;31(4):711-6.

Bakteriyel Prostatit Nedenleri

Akut Bakteriyel Prostatit	**Kronik Bakteriyel Prostatit**
İntraprostatik idrar reflüsü	Tekrarlayan AÜSE
Korunmasız cinsel temas	AÜS anatomik/fizyolojik obstrüksiyon
Fimozis, üretral darlık	Miksiyon disfonksiyonu
BPH	Pelvik taban kas anomalisi
Alt Üriner Sistem Enfeksiyonu (AÜSE)	BPH
Prostat biyopsisi	
Proktit	
Üriner kateterizasyon	
Sistoüretral girişim	

Wagenlehner FM, Pilatz A, Bschleipfer T. et al; Bacterial prostatitis; World J Urol . 2013 Aug;31(4):711-6.

Prostat Biyopsisi Sonrası Prostatit

Increasing Hospital Admission Rates for Urological Complications After Transrectal Ultrasound Guided Prostate Biopsy

Robert K. Nam,*,† Refik Saskin,† Yuna Lee,† Ying Liu,† Calvin Law,† Laurence H. Klotz,‡ D. Andrew Loblaw,† John Trachtenberg,† Aleksandra Stanimirovic,† Andrew E. Simor,† Arun Seth,† David R. Urbach† and Steven A. Narod†

From the Division of Urology (RKN, LHK, AS), Division of General Surgery (CL), Department of Microbiology and Division of Infectious Diseases (AES), Department of Radiation Oncology (DAL) and Division of Molecular and Cellular Biology (AS), Sunnybrook Research Institute; and Division of General Internal Medicine, St. Michael's Hospital (YL); Institute of Clinical Evaluative Sciences (RS, YL); Division of Urology (JT), Division of General Surgery (DRU), University Health Network; Department of Public Health Sciences (SAN); and Department of Health Policy Management and Evaluation (RKN, CL, DRU), University of Toronto, Toronto, Ontario, Canada

Given this difference in rates by cancer status we examined rates of hospital admission stratified by cancer status. Among the patients without cancer the rate of hospital admission after TRUS guided prostate biopsy increased from 1.0% in 1996 to 4.1% in 2005 ($p < 0.0001$, chi-square 184.4, 9 df) (see figure and table 1). For patients diagnosed with cancer the rate of hospital admission also increased during the study period. The 30-day hospital admission rate was 0.4% in 1996 and increased to 0.9% in 2005 ($p = 0.002$).

For the patients admitted to hospital mean time to admission from the date of TRUS guided prostate biopsy was 5.0 days (SD 7.9, median 1, range 0 to 30). Mean length of hospital stay was 1.1 days (SD 3.8, median 1, range 1 to 68). No significant differences were found for time to hospital admission or length of hospital stay when comparing by year of biopsy.

Causes for 30-Day Hospital Admission

The majority of hospital admissions were for infection related diagnoses (71.6%, 556), followed by bleeding related diagnoses (19.4%, 151) and urinary

TRUS eşliğinde prostat biyopsisi sonrası 30 günlük hastane yatışı 1996'dan 2005'e kadar %1'den %4,1'e yükselmiş ve hastane yatışının en sık nedeni enfeksiyonlar.

Prostat Biyopsisi Sonrası Prostatit

Prostatic Diseases and Male Voiding Dysfunction

Incidence of Acute Prostatitis Caused by Extended-spectrum β-Lactamase-producing *Escherichia coli* After Transrectal Prostate Biopsy

Ender Özden, Yakup Bostanci, Kamil Y. Yakupoglu, Ekrem Akdeniz, Ali F. Yılmaz, Necla Tulek, and Saban Sarıkaya

Acute prostatitis occurred after the first biopsy in 15 patients (1.3%) and after repeat biopsy in 13 patients (6.8%). None of the patients in the repeat biopsy group had developed acute prostatitis after their first biopsy.

Of the 17 patients, 13 (76.5%) harbored fluoroquinolone-resistant pathogens, including *E. coli* in 10, *Enterobacter cloacae* in 1, *Pseudomonas aeruginosa* in 1, and *Flavobacterium specium* in 1. Thus, the overall incidence of fluoroquinolone resistance was 1% (13/1339 patients).

During the study period, 6 of 14 patients had acute prostatitis caused by ESBL-producing *E. coli*. The bacteria isolated from urine were tested for drug susceptibility to a wide range of antibiotics. These results are listed in Table 3.

1339 hastanın 28 tanesinde (%2,1) prostatit gelişti, 17 hastanın idrar kültüründe m.o izole edildi, florokinolon direnci %76,5 olarak sonuçlandı.
14 E. *coli* izolatının 6 tanesi ESBL.

Prostat Biyopsisi Sonrası Prostatit

EUROPEAN UROLOGY 61 (2012) 1110–1114

available at www.sciencedirect.com
journal homepage: www.europeanurology.com

European Association of Urology

Platinum Priority – Prostate Cancer

Editorial by Alexandre R. Zlotta and Robert K. Nam on pp. 1115–1117 of this issue

Infectious Complications and Hospital Admissions After Prostate Biopsy in a European Randomized Trial

Stacy Loeb[a,], Suzanne van den Heuvel[b], Xiaoye Zhu[b], Chris H. Bangma[b], Fritz H. Schröder[b], Monique J. Roobol[b]*

[a] Department of Urology, New York University, New York, NY, USA; [b] Department of Urology, Erasmus University Medical Center, Rotterdam, The Netherlands

Table 1 shows the clinical characteristics of the study population. Overall, fever and hospital admission were reported on 392 of 9241 questionnaires (4.2%) and 78 of 9198 questionnaires (0.8%), respectively. On univariate analysis, biopsy year and prostatic enlargement were significantly associated with febrile complications. There also tended to be a greater proportion of diabetic patients with fever after biopsy, although this did not reach statistical significance.

On multivariable analysis (Table 2), prostate enlargement and diabetes were significantly associated with an increased risk of fever after PNB, whereas later year of biopsy was the only factor significantly associated with an increased risk of hospital admission.

Similar to prior studies from the United States and Canada [3,4], we observed a significant increase in the rates of hospitalization within 2 wk of prostate biopsy. Specifically, we found a 10% increase in the frequency of admissions, and most of these admissions were for infectious complications. Thus it is likely that the observed increase in hospitalizations was related to rising antimicrobial resistance.

Biyopsi sonrası 2 hafta içerisinde ateş %4,2, hastane yatış ihtiyacı ise %0,8 olup, biyopsi sonrası enfektif komplikasyonlarda yıllar içerisinde artış mevcut, bu artmış antibiyotik direnci ile ilişkili olabilir.

Prostat Biyopsisi Sonrası Prostatit

EUROPEAN UROLOGY 63 (2013) 521–527

available at www.sciencedirect.com
journal homepage: www.europeanurology.com

European Association of Urology

Platinum Priority – Infections

Editorial by Riccardo Bartoletti and Tommaso Cai on pp. 528–529 of this issue

Infective Complications After Prostate Biopsy: Outcome of the Global Prevalence Study of Infections in Urology (GPIU) 2010 and 2011, A Prospective Multinational Multicentre Prostate Biopsy Study

Florian M.E. Wagenlehner[a,], Edgar van Oostrum[b], Peter Tenke[c], Zafer Tandogdu[d], Mete Çek[e], Magnus Grabe[f], Björn Wullt[g], Robert Pickard[h], Kurt G. Naber[i], Adrian Pilatz[a], Wolfgang Weidner[a], Truls E. Bjerklund-Johansen[j], on behalf of the GPIU investigators*

[a] Department of Urology, Paediatric Urology and Andrology of the Justus-Liebig-University, Giessen, Germany; [b] EAU Department, Arnhem, The Netherlands; [c] Department of Urology, Jahn Ferenc South-Pest Hospital, Budapest, Hungary; [d] Department of Urology, Taksim Teaching Hospital, Istanbul, Turkey; [e] Department of Urology, Trakya University, Edirne, Turkey; [f] Department of Urology, Skåne University Hospital, Malmö, Sweden; [g] Department of Microbiology, Immunology and Glycobiology, Lund, Sweden; [h] Institute of Cellular Medicine, Newcastle University, Newcastle upon Tyne, UK; [i] Technical University, Munich, Germany; [j] Department of Urology, Aarhus University Hospital, Denmark

To assess factors for increased infectious complications after P-Bx, patients with infectious complications ($n = 27$) were compared with patients without infectious complications ($n = 494$) (Table 2). In multivariate analysis no significant association between UTI and any investigated variable was found (for all variables $p > 0.05$).

In this study we found that just over 5% of men experienced symptomatic UTI after P-Bx, which resulted in serious morbidity in about 70% of cases with systemic symptoms and admission to hospitals. The rate of systemic infection found in our study is higher than earlier reports in the literature where a rate of 1% was quoted in one large study

Biyopsi sonrası enfektif komplikasyon gelişen ve gelişmeyen hastalarda risk faktörleri açısından belirgin fark bulunmamaktadır ve tüm biyopsi hastalarının %5'den fazlasında enfektif komplikasyon gelişmiştir.

- Akut bakteriyel prostatit 20-40 yaş arası ve 70 yaş üzeri

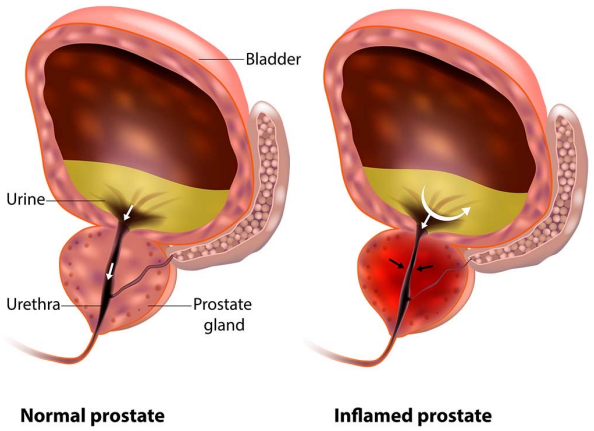
- Kronik bakteriyel prostatit 50 yaş altı

Roberts RO, Lieber MM, Rhodes T, Girman CJ, Bostwick DG, Jacobsen SJ. Prevalence of a physician-assigned diagnosis of prostatitis: The Olmsted County study of urinary symptoms and health status among men. Urology. 1998;51(4):578-584.

Bakteriyel Prostatit Klinik

Semptom

- Dizüri, pollaküri, urgency
- Skrotal, perineal ağrı
- Üriner obstrüksiyon (Zorlu miksiyon. miksiyon sonrası rahatlayamama)
- Ağrılı ejekülasyon, hematospermi
- Ateş, bulantı, kusma, halsizlik
- Kronik prostatitlerde tekrarlayan ÜSE



Fizik Muayene

- Abdominal hassasiyet
- Glob vezikale
- Skrotal hassasiyet
- Büyümüş hassas prostat
- Prostat muayenesi nazikçe yapılmalı

Coker TJ, Dierfeldt DM.; Acute Bacterial Prostatitis: Diagnosis and Management; Am Fam Physician . 2016 Jan 15;93(2):114-20.

Bakteriyel Prostatit Tanı

4 KAP TESTİ

- VB1 Üretra
- VB2 Mesane
- EPS Prostat
- VB3 Prostat
- EPS veya VB3 lökosit>VB2 veya
- EPS>10 lökosit

2 KAP TESTİ

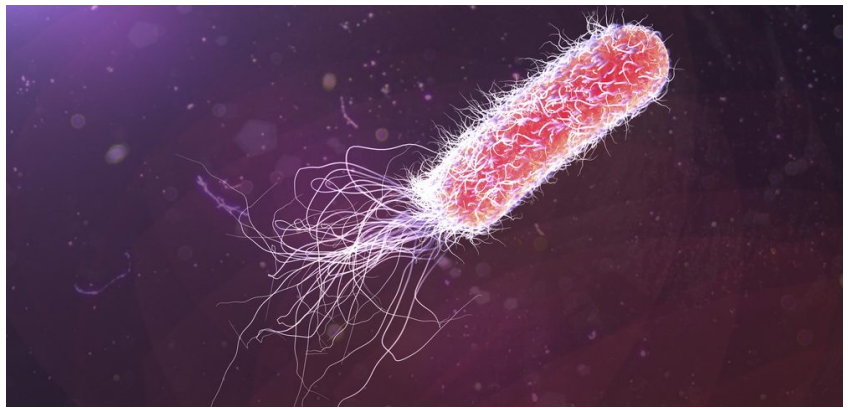
- Masaj öncesi orta akım idrarı
- Masaj sonrası ilk 10 cc idrar
- %96 duyarlılık

Akut veya kronik bakteriyel prostatit tanısında PSA yeri yok.

Sharp VJ, Takacs EB. Prostatitis: diagnosis and treatment. Am Fam Phys. 2010.
Nickel JC, Shoskes D, Wang Y, Alexander RB, Fowler JE, Zeitlin S, et al. How does the pre-massage and post-massage 2-glass test compare to the Meares-Stamey 4-glass test in men with chronic prostatitis/chronic pelvic pain syndrome? J Urol. 2006;176(1): 119–24.

OLGU

- Ampirik piperasilin-tazobaktam
- İdrar ve kan kültürü *P. aeruginosa*

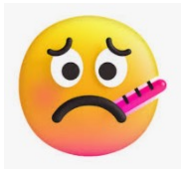


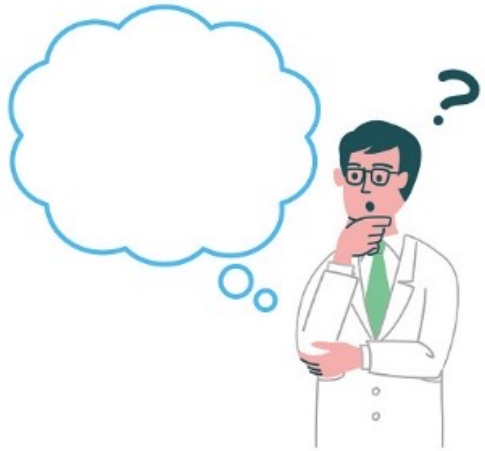
Tedavinin 48. Saati

- Lab

	YATIŞ	**YATIŞIN 48. SAATİ**
WBC	5.400 hücre/µL	5.200 hücre/µL
CRP	70 mg/L	65 mg/L
PCT	2,7 ng/mL	1,2 ng/mL

Ateş devam etmekte





Bakteriyel Prostatit Etkenleri

Biyofilm oluşturan mikroorganizmalar

Bakteriyel Prostatit Etkenleri

- En sık etken *E. coli*
- *Enterobacteriaceae* (*Klebsiella spp.* ve *Proteus spp.*),
- *Enterococcus spp.*
- Non fermenter gram-negatif basiller (ör. *P. aeruginosa*)
- *Staphylococcus spp.*
- *Streptococcus spp.*

- *Chlamydia trachomatis*
- *Trichomonas vaginalis*
- *Ureaplasma urealyticum*

Sıklıkla kronik prostatit

Lipsky BA, Byren I, Hoey CT.; Treatment of bacterial prostatitis.; Clin Infect Dis . 2010 Jun 15;50(12):1641-52.

J Infect Chemother (2012) 18:444–450
DOI 10.1007/s10156-011-0350-y

ORIGINAL ARTICLE

Acute bacterial prostatitis: how to prevent and manage chronic infection?

Byung Il Yoon · Seol Kim · Dong-Seok Han · U-Syn Ha · Seung-Ju Lee · Hyun Woo Kim · Chang-Hee Han · Yong-Hyun Cho

Received: 8 July 2011 / Accepted: 16 November 2011 / Published online: 5 January 2012

	Grup A (n=49) %	Grup B (n=46) %	Grup C (n=385) %
E. coli	55,5	53,9	61,3
Pseudomonas	11,1	16,5	15,1
Klebsiella	11,1	12,4	13,4
Enterobacter	8,1	6,5	7,5
Streptococcus	6,2	4,3	2,7
Serratia	4	3,2	0
KNS	0	3,2	0

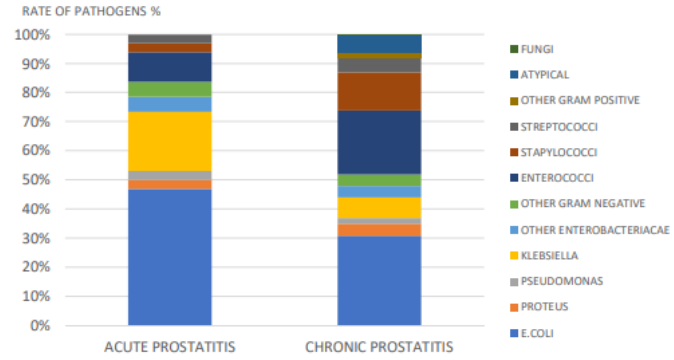
diagnostics

MDPI

Article

Spectrum of Causative Pathogens and Resistance Rates to Antibacterial Agents in Bacterial Prostatitis

Alberto Trinchieri [1,2,*], Khalid Mohammed Abdelrahman [3], Kamran Hassan Bhatti [2,3], Jibril O. Bello [2,4], Krishanu Das [2,5], Ognyan Gatsev [6], Ivanka Gergova [6], Vittorio Magri [7], Nikos Mourmouras [8], Panagiotis Mourmouris [9], Soni Murdeshwar [5], Gianpaolo Perletti [10,11], Iliya Saltirov [2,6], Idrissa Sissoko [2,12], Konstantinos Stamatiou [8] and Noor Buchholz [2]



E. coli akut prostatit %46, kronik prostatit %31

World J Urol (2006) 24: 45–50
DOI 10.1007/s00345-005-0040-4

TOPIC PAPER

Félix Millán-Rodríguez · J. Palou · Anna Bujons-Tur · Mireia Musquera-Felip · Carlota Sevilla-Cecilia · Marc Serrallach-Orejas · Carlos Baez-Angles · Humberto Villavicencio-Mavrich

Acute bacterial prostatitis: two different sub-categories according to a previous manipulation of the lower urinary tract

Received: 6 October 2005 / Accepted: 7 November 2005 / Published online: 31 December 2005

	MABP (10%) $n=61$	SABP (90%) $n=553$	*P*-value
Mean age	64 years	52 years	0.0001
History of ABP	1.7%	15.9%	0.004
Fever	64.4%	31.3%	0.0001
Micturitional syndrome	22%	53.1%	0.0001
Rectal digital exploration			0.0001
Grade 1	4%	17.3%	
Grade 2	46%	60.8%	
Grade 3	48%	21.3%	
Grade 4	2%	0.6%	
Prostatic abscess	17.6%	1.6%	0.0001
Mixed infections	9.5%	1%	0.0001
Escherichia coli	62.5%	90.5%	0.0001
Pseudomona s spp.	20%	1%	0.0001
Citrobacter spp.	5%	0%	0.0001
Streptococcus spp.	5%	1%	0.0001
Enterococcus spp.	2.5%	0%	0.0001

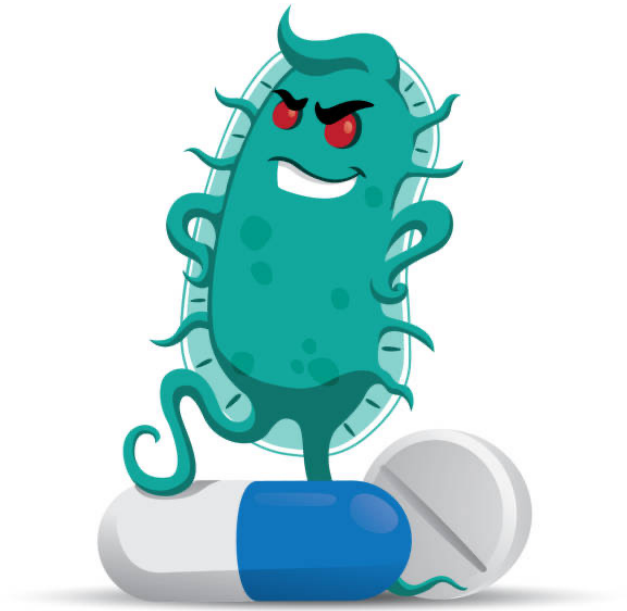
MABP acute bacterial prostatitis secondary to manipulation, *SABP* spontaneous acute bacterial prostatitis

İdeal Antibiyotik Seçimi

Prostat kapilleri fenestrasız

Prostat pH 7,3

İnflame prostat pH 8,34



Su ZT, Zenilman JM, Sfanos KS, Herati AS; Management of Chronic Bacterial Prostatitis; Curr Urol Rep . 2020 Jun 3;21(7):29.

- Florokinolon
- Sefalosporin
- Beta laktam/beta laktamaz inh.
- Aminoglikozid
- Karbapenem
- Sülfanamid
- Tetrasiklin

ELSEVIER

International Journal of Antimicrobial Agents 31S (2008) S96–S101

INTERNATIONAL JOURNAL OF Antimicrobial Agents

www.ischemo.org

Acute bacterial prostatitis in Korea: clinical outcome, including symptoms, management, microbiology and course of disease

U-Syn Ha [a], Min Eui Kim [b], Chul Sung Kim [c], Bong Suk Shim [d], Chang Hee Han [a], Sang Don Lee [e], Yong-Hyun Cho [a,*]

[a] *Department of Urology, The Catholic University of Korea College of Medicine, Seoul, South Korea*
[b] *Department of Urology, Soonchunhyang University, Bucheon, South Korea*
[c] *Department of Urology, College of Medicine, Chosun University, Gwangju, South Korea*
[d] *Department of Urology, College of Medicine, Ewha Womans University, Seoul, South Korea*
[e] *Department of Urology, College of Medicine, Pusan National University, Busan, South Korea*

Abstract

The Korean Association of Urogenital Tract Infection and Inflammation (KAUTII) conducted a multicentre, retrospective analysis of acute bacterial prostatitis (ABP) to document clinical features, management, microbiology and the course of disease. The clinical records of 473 cases compatible with a confirmed diagnosis of ABP from 16 urological centres between 2001 and 2005 were reviewed. Susceptibility of the organisms causing ABP, including *Escherichia coli*, to ciprofloxacin was shown to be very low, fuelling debate as to the efficacy of ciprofloxacin against uropathogens in Korea. When subcategorised according to history of prior manipulation of the lower urinary tract, there were distinct differences between ABP patients with or without a history of prior manipulation with regard to overall clinical and microbiological features. The difference in the distribution of pathogens between the two groups as well as the difference in susceptibility between *E. coli* and other pathogens should influence empirical antibiotic treatment. In the group with a history of prior manipulation of the lower urinary tract, ciprofloxacin or cephalosporins alone are an inadequate choice and the combination of cephalosporins and amikacin is recommended for empirical therapy.

Keywords: Acute bacterial prostatitis; Microbiology; Susceptibility

Antibiyotik	Sekonder ABP 39 hasta Duyarlılık(%)	Spontan ABP 76 hasta Duyarlılık (%)
Ampisilin	21,4	32,6
Ampisilin-Sulbaktam	45,5	36
Piperasilin-Tazobaktam	84,6	90,2
1. Kuşak Sefalosporin	53,8	61,9
2. Kuşak Sefalosporin	57	84,2
3. Kuşak Sefalosporin	78,6	83,7
4. Kuşak Sefalosporin	80	85,7
Siprofloksasin	53,3	80,4
Ofloksasin	91,5	85,7
Amikasin	92,3	95
Gentamisin	66,7	87,2
Tobramisin	66,8	91,4
İmipenem	99,3	99,5
TMP-STX	54,6	71,9

AMERICAN SOCIETY FOR MICROBIOLOGY | Microbiology Spectrum

RESEARCH ARTICLE

Risk Factors for Relapse in Acute Bacterial Prostatitis: the Impact of Antibiotic Regimens

Ester Marquez-Algaba,[a] Carles Pigrau,[a,c] Pau Bosch-Nicolau,[a] Belen Viñado,[b,c] Judit Serra-Pladevall,[b,c] Benito Almirante,[a,c] Joaquín Burgos[a]

[a]Department of Infectious Diseases, Vall d'Hebron Institut de Recerca (VHIR), Universitat Autonoma de Barcelona, Hospital Universitari Vall d'Hebron, Barcelona, Spain
[b]Department of Microbiology, Hospital Universitari Vall d'Hebron, Vall d'Hebron Barcelona Hospital Campus, Barcelona, Spain
[c]Spanish Network for Research in Infectious Diseases (REIPI RD16/0016/0003), Seville, Spain

ABSTRACT The aim of the study was to analyze the risk factors for relapse in patients with acute bacterial prostatitis (ABP), focusing on the impact of different antibiotic regimens. We conducted an observational study of all patients diagnosed with ABP (irritative and/or obstructive urinary symptoms, temperature of >37.8°C, and the presence of bacteriuria in urine culture, in the absence of data suggesting pyelonephritis) from January 2017 to December 2018. The main outcome was relapse. We performed a multivariate analysis to identify the risk factors associated with relapse. A propensity score with inverse weighting was applied to attenuate antibiotic selection bias. We included 410 patients. The mean age was 68 years; 28.8% had diabetes mellitus, and 61.1% benign prostatic hyperplasia. The most common isolated bacteria were *Escherichia coli* (62.4%) and *Klebsiella* spp. (10%). The overall resistance rate was 39.5% to quinolones. The mortality rate was 1.2%, and the relapse rate was 6.3%. The only independent risk factor for relapse was inadequate antibiotic therapy (odds ratio [OR] 12.3; 95% confidence interval [95% CI], 3.5 to 43.1). When the antibiotic was modified according to the susceptibility pattern, the rates of relapse were 1.8% in those treated with ciprofloxacin, 3.6% with intravenous beta-lactam, 9.3% with co-trimoxazole, and 9.8% with oral (p.o.) beta-lactam ($P = 0.03$). Treatment with oral beta-lactam (OR, 5.3; 95% CI, 1.2 to 23.3) and co-trimoxazole (OR, 4.9; 95% CI, 1.1 to 23.2) were associated with a risk of relapse. In this large real-life observational study, a significantly higher relapse rate was observed when antibiotic treatment was inadequate. When the antibiotic was tailored, quinolones and intravenous beta-lactams had a lower relapse rate than co-trimoxazole and oral beta-lactams.

Antibiyotik	Dirençli İzolatlar (n/N[%])		
	E. coli	Klebsiella spp.	Proteus spp.
TK-ABP	211/313 (67.4)	29/313 (9.3)	11/313 (3.5)
AMC	78/211 (37.1)	4/29 (13.8)	4/11 (36.4)
Sefuroksim	47/211 (22.3)	3/29 (10.3)	2/11 (18.2)
Sefotaksim	30/211 (14.3)	3/29 (10.3)	1/11 (9.1)
Siprofloksasin	79/211 (37.4)	3/29 (10.3)	4/11 (36.4)
TMP-STX	59/211 (28)	1/29 (3.4)	5/11 (45.5)
Ertapenem	0	0	0
Fosfomisin	2/203 (0.9)	5/29 (17.2)	1/11 (9.1)
ESBL	27/211 (12.8)	2/29 (6.9)	0
SHİ-ABP	47/109 (43.1)	20/109 (18.3)	14/109 (12.8)
AMC	27/47 (57.4)	20/20 (100)	4/14 (28.6)
Sefuroksim	22/47 (46.8)	20/20 (100)	3/14 (21.4)
Sefotaksim	16/47 (34)	7/20 (35)	3/14 (21.4)
Siprofloksasin	34/47 (72.3)	8/20 (40)	4/14 (28.6)
TMP-STX	20/47 (42.6)	20/20 (100)	2/14 (14.3)
Ertapenem	0	20/20 (100)	0
Meropenem	0	3/20 (15)	0
Fosfomisin	1/47 (2.1)	20/20 (100)	3/14 (21.4)
ESBL	15/47 (31.9)	0	2/14 (14.3)

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Fosfomycin for bacterial prostatitis: a review

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ABSTRACT

There has been growing interest in fosfomycin for the treatment of bacterial prostatitis due to evidence suggesting that it achieves adequate prostatic concentrations for antimicrobial effect, has activity against resistant micro-organisms, and has a low-toxicity profile. This review evaluated the current clinical evidence for fosfomycin in acute and chronic bacterial prostatitis to elucidate the clinical implications of fosfomycin in an era of increasing antimicrobial resistance. PubMed, Scopus, EMBASE, Web of Science, Google Scholar and ClinicalTrials.gov were searched for studies published in the English language from January 1984 to November 2019. The inclusion criteria were met if the study reported the use of fosfomycin (more than one dose) to treat bacterial prostatitis. Ten observational studies were identified that met the inclusion criteria. The evidence for the use of fosfomycin in acute bacterial prostatitis is sparse. The majority of the available evidence is for chronic bacterial prostatitis caused by *Escherichia coli*. Despite the implementation of variable dosing regimens, extended courses of fosfomycin appear to be safe and effective in achieving clinical and microbiological cure. In these studies, the use of fosfomycin was restricted to cases of treatment failure, intolerance to first-line therapy, or multi-resistant organisms. However, given the development of resistant organisms and the undesirable adverse effects of many first-line therapeutic options, fosfomycin has the potential to be considered as an effective first-line alternative for acute and chronic bacterial prostatitis in the future. Further studies, including randomized controlled trials, would be helpful to firmly establish its optimal dosing regimen, efficacy and place in therapy.

Hasta Sayısı	Patojenler	Doz	Süre	Klinik Sonuç
44	*E. coli* (29/44) *E. faecalis* (6/44) K. oxytoca (3/44) *K.* pneumoniae (3/44) *P. mirabilis* (2/44) *P. aeruginosa* (1/44)	İlk hafta günlük 3 gr, sonrasında 3gr/48 saat	6-12 hafta	%84,1 (37/44)
15	*E. coli* (14/15) *K. oxytoca* (1/15)	3 gr/48 saat	6 hafta	%47 (7-15)
1	*E. coli*	İlk 10 gün 3 gr, sonrasında 3gr/48 saat	3 ay	Şifa
1	*E. coli*	İV 4gr	4 hafta	Şifa
1	*E. coli*	Günlük 3 gr	16 hafta	Şifa
1	*E. coli*	3 gr/72 saat	2 hafta	Şifa
1	*E. coli*	3 gr/48 saat	12 hafta	Şifa

Bakteriyel prostatit tipi ve olası etken	Birincil öneri	Alternatif rejim	Ek öneriler
Akut			
Komplike olmayan ve CYBE şüphesi düşük enfeksiyon			
Enterobacteriaceae	Siprofloksasin 2x400 mg iv veya 2x500 mg p.o Levofloksasin 1x500-750 mg iv/p.o	TMP-STX (160/800) 2x1 P.O	2 haftalık tedavi, semptomlar devam ederse 4 haftaya uzatılabilir
Enterococcus	Ampisilin 6x1-2 gr iv Vankomisin 2x15mg/kg iv	Levofloksasin 1x750 mg iv/p.o Linezolid 2x600 mg iv/p.o	Hasta stabil olduğunda oral tedaviye geçilir
P. aeruginosa	Siprofloksasin 3x400 mg iv	Piperasilin-tazobaktam 4x4,5 gr iv	
Komplike olmayan CYBE şüphesi yüksek enfeksiyon			
N. gonorrhoeae veya *C. trachomatis* enfeksiyonları	Seftriakson 1x250 mg im+ Doksisiklin 2x100 mg p.o veya Azitromisin 1x500 mg p.o		2 haftalık tedavi süresi
Komplike olmayan dirençli enfeksiyon			4 haftalık tedavi planlanmalıdır
Florokinolon dirençli *Enterobacteriaceae*	Ertapenem 1x1 gr iv	Seftriakson 2x1 gr iv İmipenem 4x500 mg iv Tigesiklin 1x100 mg iv yükleme 2x50 mg iv idame	
ESBL *Enterobacteriaceae*	Ertapenem 1x1 gr iv	Sefipim 2x1 gr iv İmipenem 4x500 mg iv Tigesiklin 1x100 mg iv yükleme 2x50 mg iv idame	
Florokinolon direçli *Pseudomonas*	İmipenem 4x500 mg iv	Meropenem 3x500 mg iv	
Bakteriyemi veya apse şüpheli *Enterobacteriaceae ve Enterococcus*	Siprofloksasin 2x400 mg iv Levofloksasin 1x500 mg iv	Seftriakson 2x1 gr iv+ Piperasilin-tazobaktam 4x3,375 gr iv veya Ertapenem 1x1 gr iv	Kan kültürü alınmalı, genitorüiner sistem görüntüleme planlanmalıdır, apse drene olduğunda oral tedaviye geçilebilir
Kronik			4-6 haftalık tedavi planlanmalıdır
Enterobacteriaceae ve *Enterococcus*	Siprofloksasin 2x400 mg iv Levofloksasin 1x500 mg iv	TMP-STX (160/800) 2x1 P.O	
Stafilokok	Azitromisin 1x500 mg p.o	Doksisiklin 2x100 mg p.o	

Prostat Biyopsisi Öncesi Profilaksi

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European Association of Urology

Review – Prostate Cancer

Role of Prophylactic Antibiotics in Transperineal Prostate Biopsy: A Systematic Review and Meta-analysis

Spyridon P. Basourakos[a], *Mark N. Alshak*[a], *Patrick J. Lewicki*[a], *Emily Cheng*[a], *Michael Tzeng*[a], *Antonio P. DeRosa*[b], *Mathew J. Allaway*[c], *Ashley E. Ross*[d], *Edward M. Schaeffer*[d], *Hiten D. Patel*[e], *Jim C. Hu*[a,*], *Michael A. Gorin*[c,f,*]

[a] *Department of Urology, New York Presbyterian Hospital/Weil Cornell Medicine, New York, NY, USA;* [b] *Samuel J. Wood Library & C.V. Starr Biomedical Information Center, Weill Cornell Medicine, New York, NY, USA;* [c] *Urology Associates and UPMC Western Maryland, Cumberland, MD, USA;* [d] *Department of Urology, Northwestern University Feinberg School of Medicine, Chicago, IL, USA;* [e] *Department of Urology, Loyola University Medical Center, Maywood, IL, USA;* [f] *Department of Urology, University of Pittsburgh School of Medicine, Pittsburgh, PA, USA*

Evidence synthesis: A total of 106 unique studies describing 112 cohorts of patients were identified, of which 98 (37 805 men) received antibiotic prophylaxis and 14 (4772 men) did not receive it. All patients were included in the analysis of septic complications. In total, there were 19/37 805 (0.05%) episodes of sepsis in the group of men who received antibiotics, which was similar to the no antibiotic group with 4/4772 (0.08%) episodes ($p = 0.2$). For overall infections (septic plus nonseptic), there were 403/29 880 (1.35%) versus 58/4772 (1.22%) events among men with evaluable data who received and did not receive antibiotic prophylaxis, respectively ($p = 0.8$).

Septik ve septik olmayan enfeksiyöz komplikasyonlar açısından profilaksi alan ve almayan hastalar arasında anlamlı fark yok.

Prostat Biyopsisi Öncesi Profilaksi

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European Association of Urology

Platinum Opinion

Time to Adapt Our Practice? The European Commission Has Restricted the Use of Fluoroquinolones since March 2019

Gernot Bonkat [a,†,*], *Adrian Pilatz* [b,‡], *Florian Wagenlehner* [b,§]

[a] *alta uro AG, Merian Iselin Klinik, Centre of Biomechanics & Calorimetry, University of Basel, Basel, Switzerland;* [b] *Clinic for Urology, Paediatric Urology and Andrology, Justus-Liebig University, Giessen, Germany*

For perioperative antibiotic prophylaxis, the EC has banned fluoroquinolones. This means that fluoroquinolones can no longer be used as prophylaxis for ureterorenoscopy, percutaneous nephrolithotomy, transurethral resection of the prostate, transurethral resection of the bladder, or transrectal prostate biopsy. The EAU guidelines do not recommend fluoroquinolones for perioperative prophylaxis because of the lack of evidence for their benefit over other antibiotics, with the exception of transrectal prostate biopsy. Despite increasing resistance rates, fluoroquinolones are still the antibiotic prophylaxis most widely used for transrectal prostate biopsy. This is because of their favourable pharmacokinetics and the fact their value in this setting is supported by high-level scientific evidence. However, this must now change because of the EC ruling, despite the fact the most recent meta-analyses have revealed that 24-h duration is sufficient for prophylaxis [3,4]. Consequently, the recommendations of the EAU urological infections guidelines for antibiotic prophylaxis before transrectal biopsy must be amended to reflect the EC ruling.

Avrupa Üroloji Komisyonu florokinolonların TRUS prostat biyopsisi profilaksisinde kullanımının uygun olmadığını belirtti

Prostat Biyopsisi Öncesi Profilaksi

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European Association of Urology

Platinum Opinion – Editorial

European Association of Urology Position Paper on the Prevention of Infectious Complications Following Prostate Biopsy

Adrian Pilatz[a,], Rajan Veeratterapillay[b], Konstantinos Dimitropoulos[c], Muhammad Imran Omar[d], Benjamin Pradere[e,f], Yuhong Yuan[g], Tommaso Cai[h], Tunde Mezei[i], Wout Devlies[j], Franck Bruyère[e,f], Riccardo Bartoletti[k], Bela Köves[l], Suzanne Geerlings[m], Sören Schubert[n], Jeremy Grummet[o], Nicolas Mottet[p], Florian Wagenlehner[a], Gernot Bonkat[q]*

[a] Department of Urology, Pediatric Urology and Andrology, Justus-Liebig-University Giessen, Giessen, Germany; [b] Freeman Hospital, Newcastle Upon Tyne, UK; [c] Department of Urology, Aberdeen Royal Infirmary, Aberdeen, Scotland, UK; [d] Guidelines Office, European Association of Urology, Arnhem, The Netherlands; [e] Department of Urology, CHRU Bretonneau, Tours, France; [f] Université Francois Rabelais, PRES Centre Val de Loire, Tours, France; [g] Department of Medicine, Division of Gastroenterology, McMaster University, Hamilton, Canada; [h] Department of Urology, Santa Chiara, Reg. Hospital, Trento, Italy; [i] Department of Urology, Telemark Hospital, Skien, Norway; [j] Department of Urology, UZ Leuven, Leuven, Belgium; [k] Department of Translational Research and New Technologies, University of Pisa, Italy; [l] Department of Urology, South-Pest Teaching Hospital, Budapest, Hungary; [m] Department of Internal Medicine, Amsterdam University Medical Center, The Netherlands; [n] Max von Pettenkofer Institute, Faculty of Medicine, LMU Munich, Germany; [o] Department of Surgery, Alfred Health, Central Clinical School, Monash University, Melbourne, Australia; [p] Department of Urology, University Jean Monnet St Etienne, Saint-Étienne, France; [q] Alta Uro AG, Merian Iselin Klinik, Center of Biomechanics and Calorimetry, University Basel, Basel, Switzerland

Regarding alternative options for antibiotic prophylaxis, two RCTs investigated *aminoglycosides* (gentamicin 3 mg/kg intravenously before biopsy and amikacin 15 mg/kg i.m. 1–2 h before biopsy), two RCTs investigated *cephalosporins* (ceftriaxone 1 g i.m. 0.5 h before biopsy and cefixime 400 mg p.o./d for 3 d starting the day before biopsy), and three RCTs investigated *fosfomycin trometamol* (each 3 g p.o. 24 h before plus after biopsy, 3 g p.o. the night before biopsy, and 3 g p.o. 1 h before biopsy) versus fluoroquinolones. Aminoglycosides and cephalosporins were comparable with fluoroquinolones with regard to infectious complications, while fosfomycin trometamol led to a significantly reduced number of infections (RR 0.49, 95% CI: 0.27–0.87) [1].

Fosfomisinle profilakside enfeksiyöz komplikasyonlar florokinolon ve sefalosporinlere göre daha düşük bulunmuş

EAU Guidelines on Urological Infections

G. Bonkat (Chair), R. Bartoletti, F. Bruyère, T. Cai,
S.E. Geerlings, B. Köves, S. Schubert, A. Pilatz,
R. Veeratterapillay, F. Wagenlehner
Guidelines Associates: W. Devlies, J. Horváth,
G. Mantica, T. Mezei, B. Pradere,
Guidelines Office: E.J. Smith

European Association of Urology

36 saatlik medikal tedaviye yanıt alınamayan vakalarda;

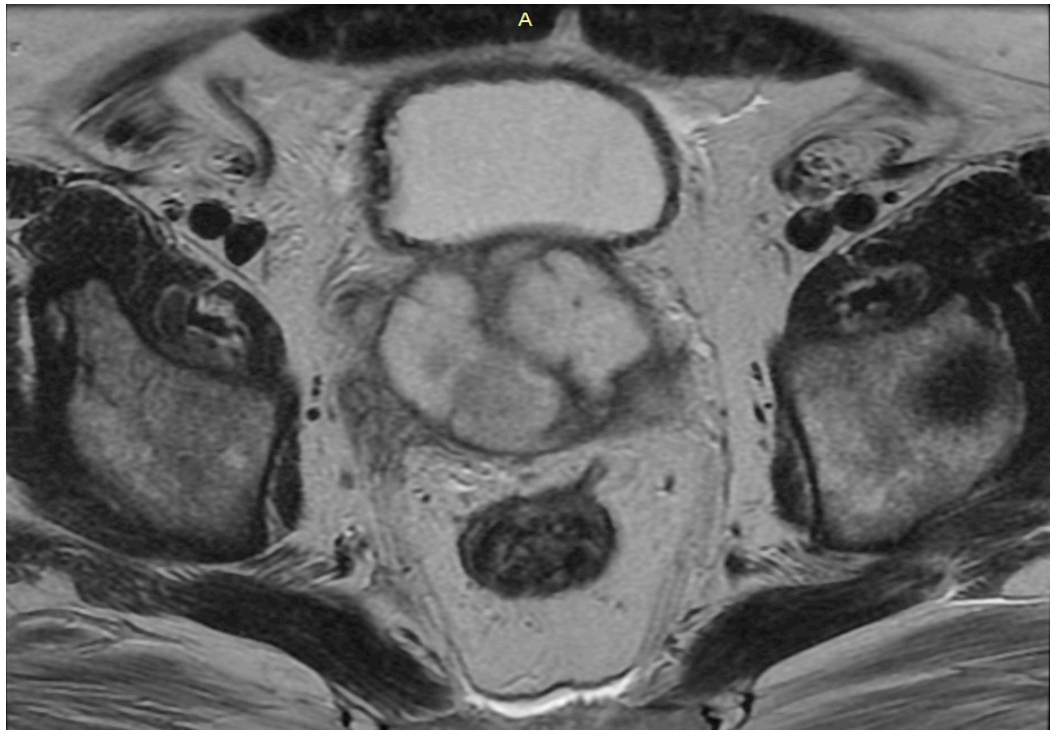
- TRUS
- BT
- MRG

Prostat apse çapı <1 cm medikal tedavi, >1 cm cerrahi drenaj

Olgu

USG: Prostat volümü 220 cc , multipl yoğun içerikli kistik görünüm

Dinamik kontrastlı Prostat MRG: Prostat parankimi ayırt edilememektedir, heterojen kistik yapıda 107*59*67 mm boyutlarında belirgin kontrastlanma içeren, difüzyon kısıtlanması gösteren lezyon

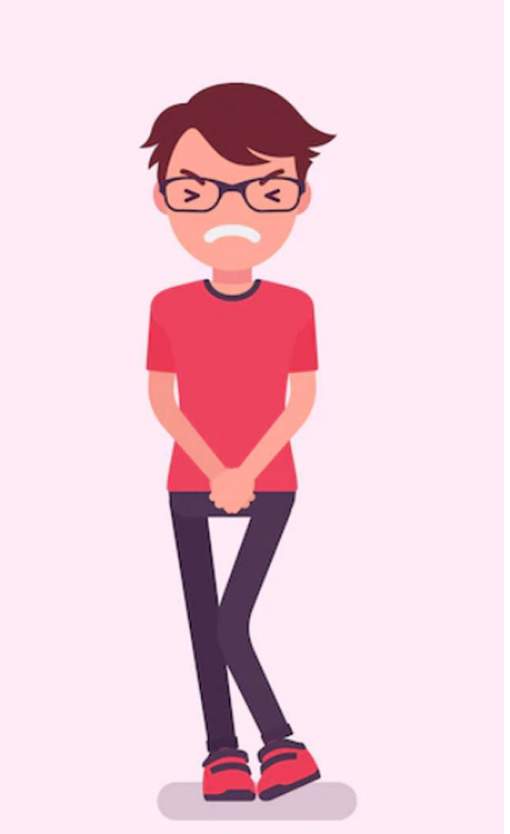


Olgu

- Yatışının 3. haftasında oral sefiksim ile taburcu
- 3 hafta sonraki poliklinik kontrolünde şikayet yok

Olgu-2

- 37 yaşında erkek hasta
- 1 aydır devam eden dizüri ve üretral akıntı
- 2 hafta önce tek doz 2 gr seftriakson



Olgu-2

- Kronik hastalık yok
- Operasyon öyküsü yok
- 2 ay önce korunmasız cinsel temas

Laboratuvar

- WBC:7.200 hücre/µL
- HB:15,1 g/dL
- PLT:343.000 hücre/µL
- KREATİNİN:0,79 mg/dL
- SEDİMENTASYON:38 mm/h
- CRP:14 mg/L
- TİT 17 lökosit/HS 2 eritrosit/HS

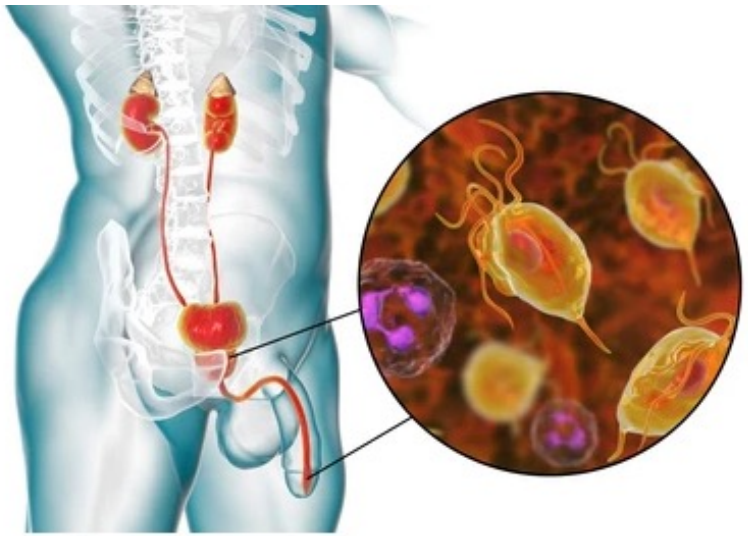
Olgu-2

- Anti HIV non-reaktif
- Anti HCV non-reaktif
- HBsAg non-reaktif
- TPHA negatif
- Üretral akıntının Gram boyasında her alanda 10 lökosit, m.o izlenmedi
- İdrar kültürü bakteri izole edilmedi.

- Üretral akıntı multipleks PCR

Üretrit

- Gonokokal üretrit
- Non-gonokokal Üretrit
  - *Chlamydia trachomatis*
  - *Mycoplasma genitalium*
  - *Ureaplasma urealyticum*
  - *Haemophilus influenzae*
  - *Neisseria meningitidis*
  - *Mycoplasma hominis*
  - *Gardnerella vaginalis*
  - Adenovirus
  - Herpes simplex virüs
  - Epstein–Barr virus
  - *Trichomonas vaginalis*
  - *Candida spp.*



Sarıer M, Kukul E.; Classification of non-gonococcal urethritis: a review; Int Urol Nephrol . 2019 Jun;51(6):901-907.

Üretrit Klinik

Semptom	**Fizik Muayene**
Dizüri	Üretral meada kızarıklık
Üretral akıntı	İnguinal lenfadenopati
Üretral mea veya skrotal ağrı	Perianal lezyonlar
Üretral veya anal kaşıntı	

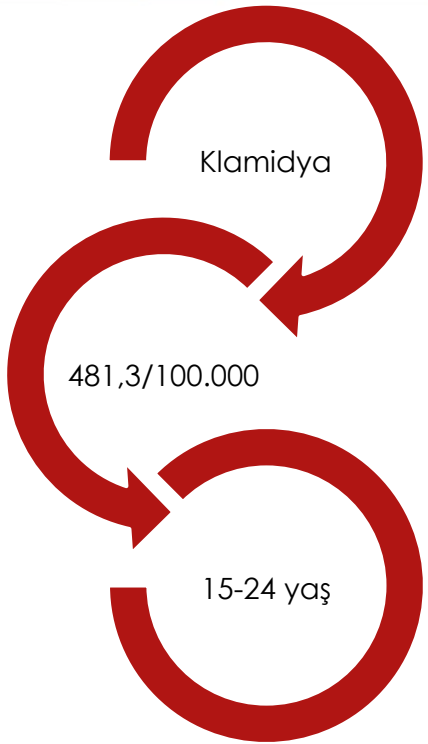
Sell J, Nasir M, Courchesne C.; Urethritis: Rapid Evidence Review; Am Fam Physician . 2021 May 1;103(9):553-558.

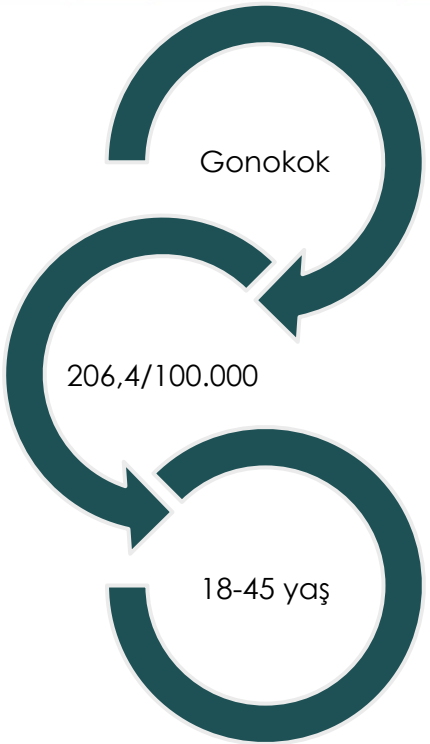
Centers for Disease Control and Prevention
CDC 24/7: Saving Lives, Protecting People™

Sexually Transmitted Disease Surveillance 2020

New Data Show That STDs Remain Far Too High

Even in the face of a pandemic, 2.4 million cases of chlamydia, gonorrhea, and syphilis were reported

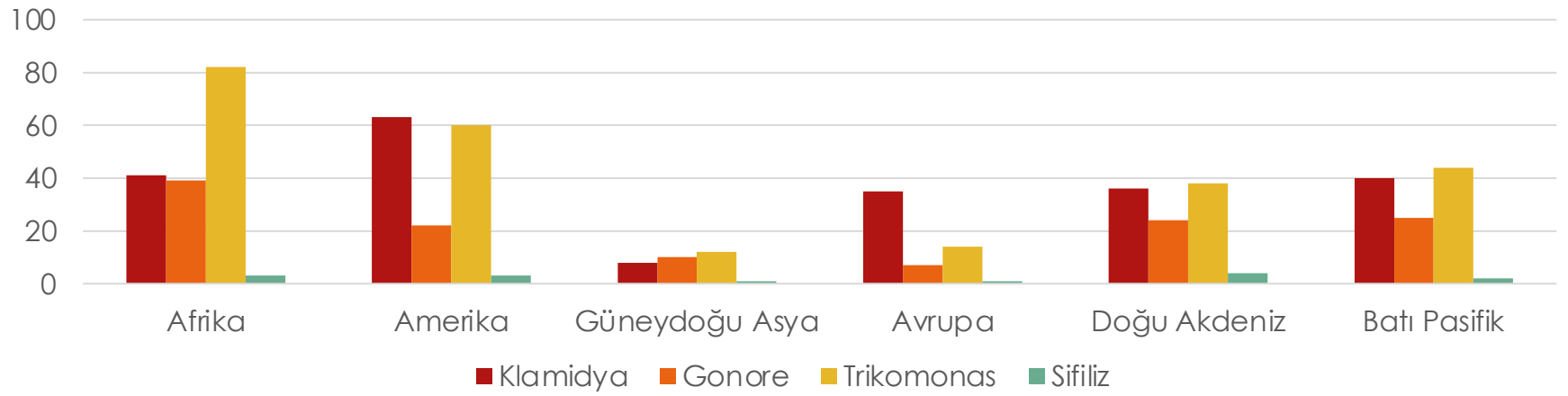




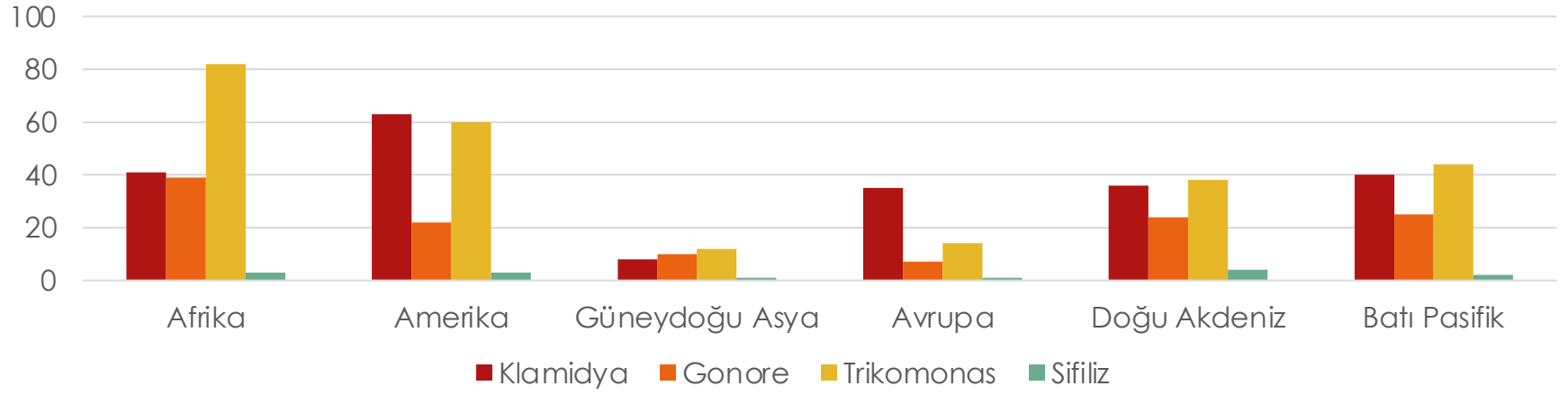
Chlamydia, gonorrhoea, trichomoniasis and syphilis: global prevalence and incidence estimates, 2016

Jane Rowley,[a] Stephen Vander Hoorn,[b] Eline Korenromp,[c] Nicola Low,[d] Magnus Unemo,[e] Laith J Abu-Raddad,[f] R Matthew Chico,[g] Alex Smolak,[f] Lori Newman,[h] Sami Gottlieb,[a] Soe Soe Thwin,[a] Nathalie Broutet[a] & Melanie M Taylor[a]

WHO 2016 CYBH İnsidans Tahmini, Kadın

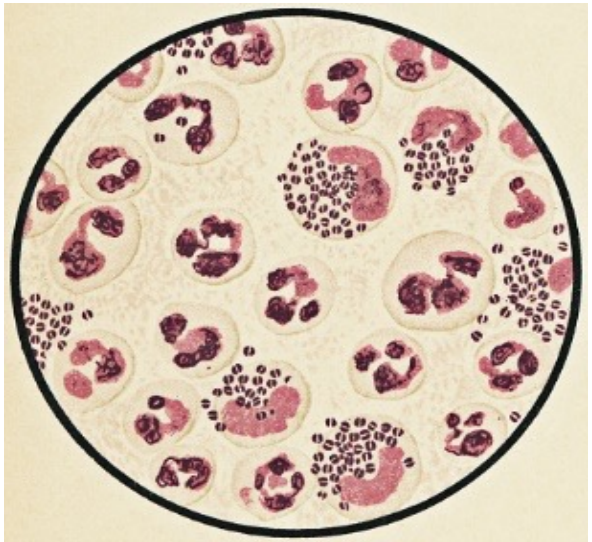


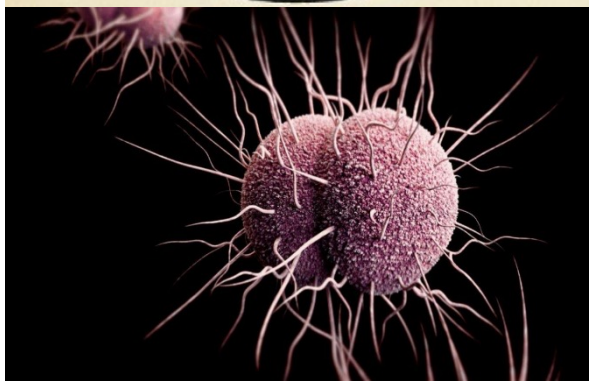
WHO 2016 CYBH İnsidans Tahmini, Erkek



Tanı

- Klinik olarak şüpheli vakalarda;
  - Üretral akıntı mikroskobik inceleme ≥ 2 lökosit
  - İlk akım idrar lökosit esteraz pozitifiliği
  - İlk akım idrar sedimenti ≥10 lökosit
  - Üretral akıntı mikroskobik incelemede lökositler içinde gonokoklar izlenebilir.
- Üretrit varlığında etkeni saptamak için NAAT





Workowski KA, Bachmann LH, Chan PA, Johnston CM, Muzny CA, Park I. et. al; Sexually Transmitted Infections Treatment Guidelines, 2021.; MMWR Recomm Rep. 2021 Jul 23; 70(4): 1–187.

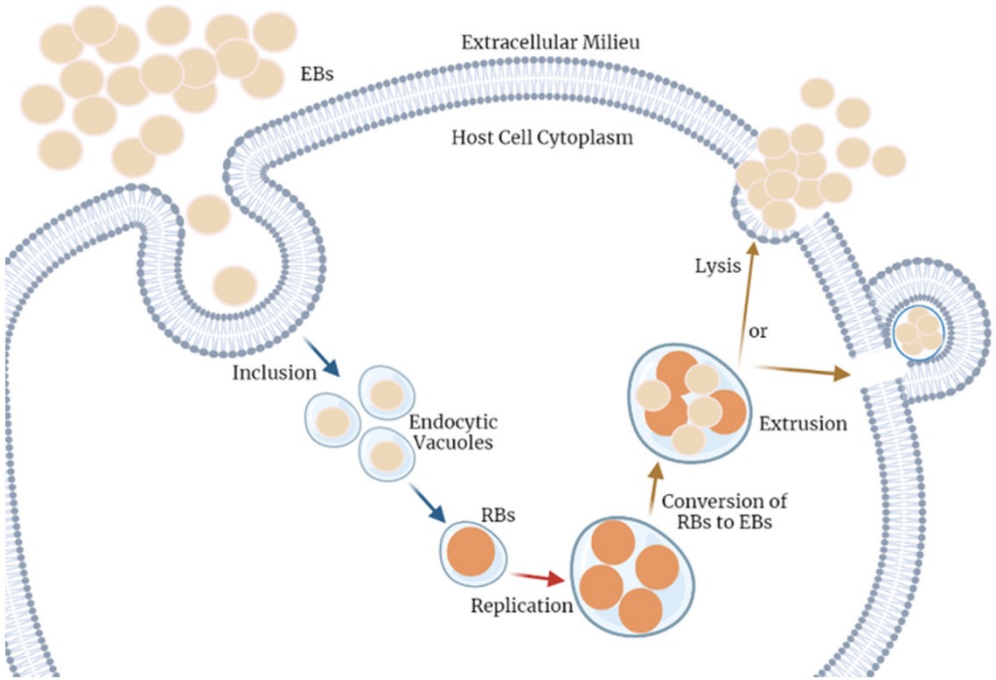
Olgu-2

- Üretral akıntı *C. Trachomatis* PCR pozitif
- Doksisiklin 2x100 mg p.o 7 gün

C. Trachomatis

- Gram negatif
- Peptidoglikan içermeyen

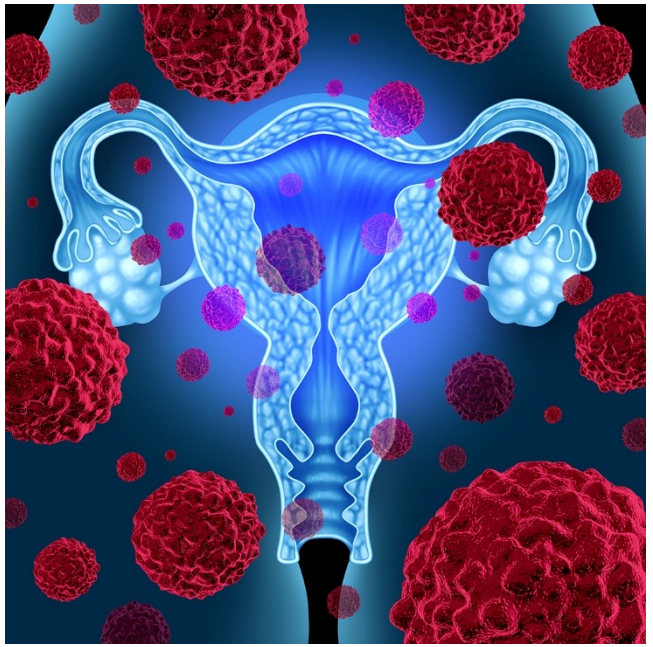
- Hücre dışı form, enfektif form Elementer Cisim
- Hücre içi form, çoğalan form Retiküler Cisim



Rodrigues R, Sousa C, Vale N.; Chlamydia trachomatis as a Current Health Problem: Challenges and Opportunities; Diagnostics (Basel) . 2022 Jul 25;12(8):1795.

C. Trachomatis

- En sık bakteriyel CYBE etkeni
- DSÖ 2020 yılı 129 milyon yeni vaka
- %80 asemptomatik
- Tedavi edilmediğinde;
  - Kronik pelvik ağrı
  - PID
  - İnfertilite
  - Neonatal enfeksiyonlar
  - Reaktif artrit (HLA-B27 pozitiflerde Reiter Sendromu?)



Neoplazi ?

Medicine
SYSTEMATIC REVIEW AND META-ANALYSIS
OPEN

Chlamydia Trachomatis Infection-Associated Risk of Cervical Cancer

A Meta-Analysis

Haiyan Zhu, MD, PhD, Zhaojun Shen, MD, Hui Luo, MD, Wenwen Zhang, PhD, and Xueqiong Zhu, MD, PhD

Main Analysis

The overall prevalence of *C. trachomatis* infection in women with cervical cancer and controls in this study was 41.95% and 26.27%, respectively. Meta-analysis of total eligible studies showed that there was a significant link between *C. trachomatis* and the risk of cervical cancer in prospective studies (OR = 2.21, 95% CI: 1.88–2.61, $P < 0.001$) (Figure 2), as well as in retrospective studies (OR = 2.19, 95% CI: 1.74–2.74, $P < 0.001$) (Figure 2).

In this meta-analysis of 19 retrospective studies and 3 prospective studies (with a total of 4291 cases and 7628 controls), we confirmed that *C. trachomatis* infection was significantly associated with increased risk of cervical cancer.

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Sexually Transmitted Infections Treatment Guidelines, 2021

Tanı:
NAAT

Tedavi:
Doksisiklin 2x100 mg p.o 7 gün

Alternatif:
Azitromisin 1 gr p.o tek doz
Levofloksasin 1x500 mg p.o 7 gün

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Guideline

AAUS guideline for chlamydial urethritis

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[b] Department of Urology, Hakodate Goryoukaku Hospital, Japan
[c] Department of Infection Control and Laboratory Medicine, Sapporo Medical University School of Medicine, Japan

Tanı:
NAAT

Tedavi:
Doksisiklin 2x100 mg p.o 7 gün veya
Azitromisin 1 gr p.o tek doz

Alternatif:
Levofloksasin 1x500 mg p.o 7 gün
Ofloksasin 3x200 mg p.o 7 gün
Klaritromisin 2x200 mg p.o 7 gün
Minosiklin 2x100 mg p.o 7 gün

Takip

- Tedaviden 3 ay sonra kontrol
- Son 2 ay içerisindeki cinsel partnerler kontrol
- Şikayetleri gerilemeyen hasta
  - Tedavi başarısızlığı ?
  - Reenfeksiyon ?

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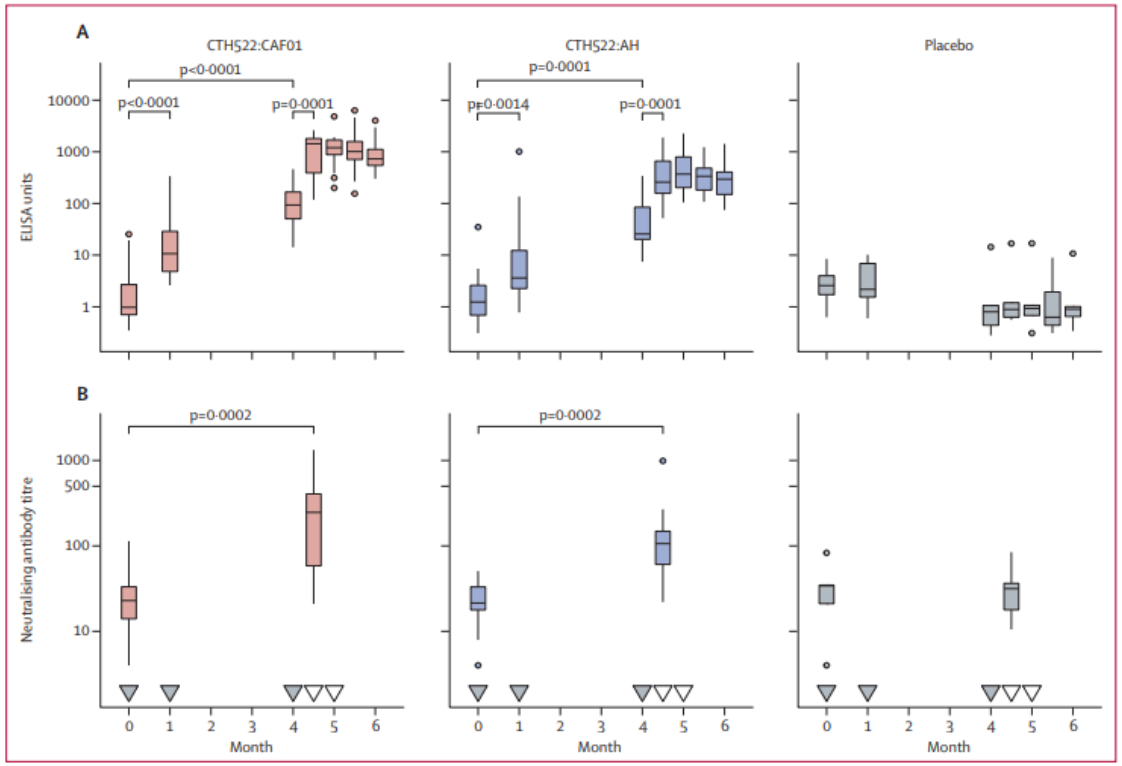
Antimikrobiyal tedavi uzatılmamalı

Cinsel partner sorgulanmalı
T. Vaginalis ve *M. genitalium* açısından değerlendirilmeli

Aşı ?

Safety and immunogenicity of the chlamydia vaccine candidate CTH522 adjuvanted with CAF01 liposomes or aluminium hydroxide: a first-in-human, randomised, double-blind, placebo-controlled, phase 1 trial

Sonya Abraham, Helene B Juel*, Peter Bang, Hannah M Cheeseman, Rebecca B Dohn, Tom Cole, Max P Kristiansen, Karen S Korsholm, David Lewis, Anja W Olsen, Leon R McFarlane, Suzanne Day, Sara Knudsen, Kjersti Moen, Morten Ruhwald, Ingrid Kromann, Peter Andersen, Robin J Shattock, Frank Follmann*



Teşekkürler