

Infection urinaire, les questions qui fâchent

Novembre 2013
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Les 5 questions récurrentes

1. Clinique de cystite mais BU normale, que faire ?
2. Cystite simple: nitrofurantoïne ou fosfomycine ?
3. Infection urinaire chez l'homme, quézaco ?
4. Cystite et femme enceinte, je panique ?
5. La vraie définition de la pyélonéphrite ?

1. Clinique de cystite mais BU normale, que faire ?

- Est-ce que je peux me fier à la clinique seule ?
- Est-ce que je fais un sédiment si la BU est négative?
- Si le sédiment est négatif, est-ce que je traite quand même ?

Performance de la clinique dans l'IU

Table 3. Likelihood Ratios (LRs) for Combinations of Symptoms

Symptom Combinations	Summary LR Using Combinations of Individual Symptoms*	Based on Data From Komaroff et al ²⁹	
		Posttest Probability of UTI, %†	Summary LR‡
Dysuria present	1.5	77	24.6
Frequency present	1.8		
Vaginal discharge absent	3.1		
Vaginal irritation absent	2.7		
Overall	22.6		
Dysuria absent	0.5	4	0.3
Vaginal discharge or irritation present	0.3 or 0.2		
Overall	0.1-0.2		
Dysuria or frequency present	1.5 or 1.8	9	0.7
Vaginal discharge or irritation present	0.3 or 0.2		
Overall	0.3-0.5		

*The LR theoretical was calculated by multiplying the summary LRs from Table 2 for each of the findings in each set of symptom combinations.
†The pretest probability of urinary tract infection (UTI) in the study by Komaroff et al was 12% (the prevalence of UTI in the study).²⁹
‡Likelihood ratios were calculated from the observed change in the pretest and posttest probability of UTI; confidence intervals cannot be calculated because the raw data were not available.

Bent S, Nallamothu B, Simel D, Fihn S, Saint S. Does this woman have an acute uncomplicated urinary infection? JAMA 2002; 287:2701-10.

Performance de la clinique dans l'IU

- probabilité à priori d'IU = prévalence
 - Prévalence ds la pop asymptomatique =5%
 - Prévalence ds la population avec ≥ 1 symptômes urinaires dans l'étude JAMA = 48%
- Probabilité à posteriori d'IU avec la triade clinique > 90%

Performance de la BU

- RV+ 4,2 RV- 0,3
 - avec une prévalence de 50%, la BU négative laisse encore la probabilité post test à 23 %...

Mais....

Table 2. Clinical Signs and Symptoms in the Prediction of Urinary Tract Infection* (cont)

Study	Positive Likelihood Ratio (95% CI)	Negative Likelihood Ratio (95% CI)
Vaginal Irritation		
Komaroff et al ²²	0.1 (0.0-0.2)	6.2 (6.0-7.6)
Wong et al ¹	0.6 (0.4-1.1)	1.2 (1.0-1.5)
Summary	0.2 (0.1-0.9)	2.7 (0.9-8.5)
Back Pain		
Wigton et al ²³ (training set)	1.7 (1.1-2.6)	0.8 (0.7-1.0)
Wigton et al ²³ (validation set)	1.6 (1.1-2.5)	0.8 (0.7-1.0)
Nazareh and King ²²	0.8 (0.3-2.5)	1.1 (0.8-1.5)
Summary	1.6 (1.2-2.1)	0.8 (0.7-0.9)
Self-diagnosis		
Gupta et al ²⁴	4.0 (2.9-5.5)	0.0 (0.0-0.1)
Vaginal Discharge on Physical Examination		
Wong et al ¹	0.8 (0.7-1.0)	1.9 (1.1-3.3)
Wigton et al ²³ (training set)	0.8 (0.1-0.9)	1.1 (1.0-1.2)
Wigton et al ²³ (validation set)	0.4 (0.2-1.0)	1.1 (1.0-1.2)
Summary	0.7 (0.5-0.9)	1.1 (1.0-1.2)
Costovertebral Angle Tenderness on Physical Examination		
Wigton et al ²³ (training set)	2.0 (1.3-3.4)	0.8 (0.7-0.9)
Wigton et al ²³ (validation set)	1.4 (0.8-2.4)	0.9 (0.8-1.0)
Summary	1.7 (1.1-2.6)	0.9 (0.8-1.0)
Dipstick Urinalysis†		
Hurlbut and Littenberg ⁶	4.2	0.3

*CI indicates confidence interval. The study by Wigton et al²³ included 2 separate sets of patients evaluated by retrospective chart review: a training set and a validation set. Likelihood ratios in bold are significant.
†A positive result was defined as leukocyte esterase positive or nitrite positive; a negative result was defined as both negative.

Bent S, Nallamothu B, Simel D, Fihn S, Saint S. Does this woman have an acute uncomplicated urinary infection? JAMA 2002; 287:2701-10.

Table 4
Pretest and Posttest Probabilities of Dipstick Leukocyte Esterase and Nitrite Combinations (One or Both Positive) in 14 Studies and the Pooled Results

Study	Prevalence (Pretest Probability)	Posttest Probability	
		Positive Result	Negative Result
Audurier et al ²⁸	0.16	0.40	0.02
Bachman et al ²⁹	0.02	0.25	0.01
Bowman and Riley ³⁰	0.22	0.53	0.01
Etherington and James ¹⁵	0.03	0.14	0.01
Graninger et al ³³	0.13	0.47	0.03
Lachs et al ³⁶	0.50	0.61	0.15
Lachs et al ³⁶	0.07	0.16	0.04
Lammers et al ³⁷	0.46	0.61	0.19
McNair et al ³⁹	0.07	0.15	0.05
Pallares et al ⁴¹	0.54	0.93	0.08
Robertson and Duff ⁴³	0.08	0.63	0.01
Sewell et al ⁴⁴	0.25	0.61	0.08
Tissot et al ⁴⁶	0.17	0.32	0.04
Tuel et al ⁴⁷	0.28	0.72	0.05
Pooled results*	0.20	0.52	0.05

Probabilité post test de 5%, permettant d'écarter l'IU en cas de BU négative

St John A, Boyd JC, Lowes AJ, Price CP. The use of urinary dipstick tests to exclude urinary tract infection: a systematic review of the literature. Am J Clin Pathol. 2006 Sep;126(3):428-36.

Performance characteristics of leukocyte esterase and nitrite tests, alone or in combination, for detection of bacteriuria and/or pyuria.

Test, colony count	Performance characteristics				Reference(s)
	Sensitivity	Specificity	Predictive values		
Positive			Negative		
Leukocyte esterase					
$\geq 10^5$ cfu/mL	68-98	59-96	19-86	91-97	[35, 48, 49, 53, 54]
$\geq 10^4$ cfu/mL	64-77	59-83	16-52	89-96	[47, 49, 53]
$\geq 10^3$ cfu/mL	62-79	55-84	3-81	51-99	[49, 52, 53]
Nitrite					
$\geq 10^5$ cfu/mL	19-45	95-98	50-78	82-89	[48, 49, 53, 54]
$\geq 10^4$ cfu/mL	8-39	97-98	27-81	85-87	[49, 53]
$\geq 10^3$ cfu/mL	0-50	48-98	0-82	37-99	[49, 52, 53]
Leukocyte esterase and nitrite					
$\geq 10^5$ cfu/mL	35-84	98-100	84	98	[48, 53]
$\geq 10^3$ cfu/mL	0-45	62-98	0-66	42-99	[52, 53]
Leukocyte esterase and/or nitrite					
$\geq 10^5$ cfu/mL	67-100	67-98	40-95	84-96	[28, 38, 48-50]
$\geq 10^4$ cfu/mL	74-79	66-82	42-54	91-92	[49, 50]
$\geq 10^3$ cfu/mL	71-84	41-83	49-81	46-90	[49, 50, 52]

NOTE. The criteria used to assess the clinical importance of isolates and the laboratory methods used varied between studies; the data are presented only as an overview of reported performance characteristics of the tests. All numbers are rounded to the nearest whole number. cfu, colony-forming units.

Wilson M L , and Gaido L Clin Infect Dis. 2004;38:1150-1158

1. Clinique de cystite mais BU normale, que faire ?

- BU limitations: nitrite (enterobactéries seules, 1^{ère} urine du matin, 4h pour conversion nitrate-nitrite) leucocyte estérase (faux nég si protéinurie, glucosurie, AB, ac ascorbique/oxalique,...
- Sédiment : ajoute le compte leucocytaire

Deville WL, Yzermans JC, van Duijn NP, et al. The urine dipstick test useful to rule out infections: a meta-analysis of the accuracy. *BMC Urol.* 2004;4:4.
[Wilson ML, Gaido L. Laboratory diagnosis of urinary tract infections in adult patients. *Clin Infect Dis* 2004; 38:1150.](#)

Table 4
Post-test probabilities (predictive values) of dipstick nitrites, leucocyte-esterase and combinations of both tests in population sub-groups and different settings, based on pooled sensitivities, pooled specificities and pooled pre-test probabilities (prevalences).

	Pre-test Probability (prevalence)	Post-test probability (predictive value)			
		Nitrites	Leucocyte-esterase	One or both positive	Both positive
Population					
General population	.15				
- Test +		.33	.27	.31	.89
- Test -		.90	.91	.94	.91

(): based on one study only.

Deville et al. *BMC Urology* 2004 4:4 doi:10.1186/1471-2490-4-4

1. Clinique de cystite mais BU et sédiment normaux, que faire ? Conclusions

- Sensibilité du test assez moyenne donc ne s'utilise pas seul, mais combiné avec la clinique
- Au vu de la bonne VPN de l'examen urinaire, si négatif, remettre le dx d'IU en question...

2. Cystite simple: nitrofurantoïne ou fosfomycine ?

- Recommandation actuelle:

5.2. IU basse simple

En première intention* :

- **nitrofurantoïne PO 3x100 mg/j pendant 5 jours**
- **fosfomycine PO 3g, dose unique**

En deuxième intention (cf. stratégie d'épargne des quinolones):

- **fluoroquinolones pendant 3 jours (norfloxacine 2x400 mg/j).**

La résistance locale au cotrimoxazole atteignant 30%, il n'a plus d'indication dans le traitement de première intention. Il reste un traitement de choix dans les régions où la résistance est au dessous de 20%.

<http://www.hug-ge.ch/medecine-de-premier-recours/strategies>

[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](#)

Kalpana Gupta, Thomas M. Hooton, Kurt G. Naber, Bjorn Wullt, Richard Colgan, Loren G. Miller, Gregory J. Moran, Lindsay E. Nicolle, Raul Raz, Anthony J. Schaeffer, and David E. Soper. *Clinical Infectious Diseases* 2011; 52: 103-120

3. Fosfomycin trometamol (3 g in a single dose) is an appropriate choice for therapy where it is available due to minimal resistance and propensity for collateral damage, but it appears to have inferior efficacy compared with standard shortcourse regimens according to data submitted to the US Food and Drug Administration (FDA) and summarized in the Medical Letter (A-1) [7].

[Drugs](#). 1997 Apr;53(4):637-56.

Fosfomycin tromethamine. A review of its antibacterial activity, pharmacokinetic properties and therapeutic efficacy as a single-dose oral treatment for acute uncomplicated lower urinary tract infections.

[Patel SS](#), [Balfour JA](#), [Bryson HM](#).

Source

Adis International Limited, Auckland, New Zealand.

Following a single 3 g oral dose, peak urinary concentrations occur within 4 hours and remain high (> 128 mg/L) for 24 to 48 hours, which is sufficient to inhibit most urinary tract pathogens.

Bacteriological eradication rates of 75 to 90% were achieved 5 to 11 days after therapy

In 3 large double-blind comparisons with ciprofloxacin, cotrimoxazole and nitrofurantoin, 99% of fosfomycin tromethamine recipients and 100% of patients receiving comparator agents were considered clinically cured or improved after therapy.

Fosfomycin for urinary tract infections. The Medical letter on drugs and therapeutics. 1997; **39(1005): 66-8**.

Non publié !

Indeed, in a U.S. controlled, doubleblinded trial whose results were never formally published, fosfomycin demonstrated a microbiologic eradication rate of only 77% (591/771) in patients with acute cystitis, as compared to 93% for both ciprofloxacin (219/222) and TMP/SMX (194/197). The inferred "clinical success rates" were 70%, 96% and 94%, respectively.

Neuner EA, Sekeres J, Hall GS, van Duin D. Experience with fosfomycin for treatment of urinary tract infections due to multidrug-resistant organisms. *Antimicrobial agents and chemotherapy*. 2012; **56(11): 5744-8**.

Rétrospectif,
41 patients

Microbiological cure occurred in 59% (24/41) of patients with a UTI due to an MDR pathogen.

Fosfomycine les doutes...

- Capacité à éradiquer complètement les germes ?
- Emergence de rechute /réinfection après 1 dose unique de fosfomycine ?
- Plus cher que la nitrofurantoïne



Titre : Essai clinique randomisé comparant la fosfomycine à la nitrofurantoïne pour le traitement des infections urinaires aiguës non compliquées chez la femme adulte à risque d'antibiorésistance

Dessin : Etude clinique prospective, randomisée, ouverte, conduite dans trois centres (Genève, Suisse / Lodz, Pologne/ Tel Aviv, Israël)

600 patientes sur 3 ans, étude de supériorité nitrofurantoïne, comparant nitrofurantoïne 3x100 mg/j pdt 5j vs fosfomycine 3 g dose unique.
Réponse clinique et bactériologique à 14 et 28 jours

C'est parti !

2. Cystite simple: nitrofurantoïne ou fosfomycine ? Conclusions

- Ne traiter que les infections urinaires avérées
- Épargner les quinolones !!!
- La fosfomycine n'est pas notre ennemie ! Bien tolérée, efficace, ok chez la femme enceinte, bonne compliance : est une option à part entière dans le ttt des IU non compliquée
- Nitrofurantoïne peut-être plus efficace si risque de résistance (nombreux épisodes)

3. Infection urinaire chez l'homme, quézaco ?

- Historiquement, homme = compliqué
...d'un point de vue urinaire s'entend !
donc cystite n'existait pas et l'IU chez l'homme était toujours une prostatite
...avec un traitement long de 14j de quinolone
- Qu'en est-il maintenant ?



IDSAGUIDELINES

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

Urological infection guidelines 2013

Only a small number of 15-50-year-old men suffer from acute uncomplicated UTI.

Such men should receive, as minimum therapy, a 7-day antibiotic regimen.

Most men with febrile UTI have a concomitant infection of the prostate, as measured by transient increases in serum PSA and prostate volume.

A minimum treatment duration of 2 weeks is recommended, preferably with a fluoroquinolone since prostatic involvement is frequent

Original Investigation | Jan 14, 2013 Less Is More

Urinary Tract Infection in Male Veterans: Treatment Patterns and Outcomes

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JAMA Intern Med. 2013;173(1):62-68. doi:10.1001/2013.jamainternmed.829.

Etude sur dossiers de 33 000 vétérans traités pour IU

1/3 ≤ 7 jours

2/3 ≥ 7 jours

Par co trimoxazole ou ciprofloxacine

Outcomes : rechute/récidive précoce ou tardive

Table 3. Multivariate Associations of Demographic, Clinical, and Treatment Characteristics Among Outpatient Male Veterans in Fiscal Year 2009

Characteristic	Odds Ratio (95% CI)
Association With Risk of Early Recurrence (<30 Days) of Urinary Tract Infection^a	
β-Lactam treatment ^b	1.81 (1.52-2.17)
History of prior urinary tract infection	1.49 (1.32-1.68)
Incontinence	1.18 (1.00-1.36)
Prostate hypertrophy	1.22 (1.08-1.38)
Association With Risk of <i>Clostridium difficile</i> Infection Within 90 Days of the Index Urinary Tract Infection Episode^c	
β-Lactam treatment ^b	2.05 (1.27-3.30)
Charlson Comorbidity Index ^d	
2	2.58 (1.42-4.68)
≥3	3.40 (1.82-6.35)
History of prior <i>C difficile</i> infection	8.82 (5.45-14.27)
Association With Longer-Duration Treatment (>7 Days) for the Index Urinary Tract Infection Episode^e	
Dementia	0.79 (0.64-0.97)
History of prior urinary tract infection	1.16 (1.10-1.22)
Human immunodeficiency virus infection	1.35 (1.01-1.81)
Incontinence	1.08 (1.00-1.17)
Prostate disease, other	1.25 (1.06-1.46)
Prostate hypertrophy	1.08 (1.03-1.14)
Prostatitis	1.35 (1.15-1.57)
Spinal cord injury	1.53 (1.34-1.75)
Stroke	0.79 (0.65-0.95)

the treatment duration was not associated with early recurrence (odds ratio, 1.01; 95% CI, 0.90-1.14).

longer-duration treatment was not associated with a decrease in late recurrence compared with shorter-duration treatment, but rather was associated with an increase in late recurrence (10.8% for >7 days vs 8.4% for ≤7 days, $P < .001$).

Editor's Correspondence | June 24, 2013

Time to Redefine the Duration of Antimicrobial Treatment in Male Patients With Urinary Infections

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JAMA Intern Med. 2013;173(12):1153-1154. doi:10.1001/jamainternmed.2013.973.

In the study by Drekonja et al,¹ a patient coded as having a UTI could represent a follow-up examination for a history of UTI, a patient with asymptomatic bacteriuria, or one with acute symptomatic UTI.

...no difference between male patients with a nonfebrile or febrile UTI...

Editor's Correspondence | June 24, 2013

Time to Redefine the Duration of Antimicrobial Treatment in Male Patients With Urinary Infections—Reply

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JAMA Intern Med. 2013;173(12):1153-1154. doi:10.1001/jamainternmed.2013.6251.

We agree that it is premature to redefine the most adequate duration of antimicrobial treatment in men with urinary tract infection (UTI)...We went on to call for a randomized trial of shorter vs longer duration treatment, which ultimately is needed to definitively answer this question, rather than further analysis of retrospective data

Management of Urinary tract infections in Switzerland

- Toujours une culture d'urine
- Écarter une urétrite (en particulier chez l'homme jeune, sexuellement actif)
- Préférer un antibiotique à bonne pénétration prostatique (co trimoxazole ou quinolone)
- Traiter 7 à 10j si aucune suspicion d'atteinte prostatique ou rénale
- Sinon traiter pour 14 j au minimum

3. Infection urinaire chez l'homme, quézaco ? Conclusions

- En 2013, l'homme est toujours compliqué
- ...d'un point de vue urinaire s'entend !
- Patient jeune, infection urinaire basse afébrile, pas de facteurs de gravité: envisager 7-10j
- Dans tous les autres cas, 14j de quinolones reste le standard actuel

4. Cystite et femme enceinte, je panique ?

- Les faits:
- ↑ du risque d'IU (stase vésicale, immunosuppression de grossesse)
- ↑ du risque d'IU haute

4. Cystite et femme enceinte, je panique ?

Attitude:

- Leucocyturie asymptomatique: je cultive et j'attends
- Leucocyturie symptomatique: je cultive et je traite d'emblée
 - 1^{er} choix fosfomycine 3g dose unique ou nitrofurantoïne 3 x 100 mg/j pdt 5j mais pas au 1^{er} trimestre ni dernier mois de grossesse
 - 2^{ème} choix céfuroxime 2x500 mg/j pdt 5j



CAVE quinolone contre indiquées toute la grossesse

Amoxicilline contre indiquée le dernier trimestre (iléite nécrasante du nouveau-né)

5. La vraie définition de la pyélonéphrite ?

Management of Urinary tract infections in Switzerland

5.2 Diagnosis

Clinical signs

Fever with or without flank pain and/or tenderness in the costovertebral angle. Symptoms and signs of lower urinary tract infection (cystitis) may or may not be present. In elderly, frail and immuno-suppressed individuals the febrile response may be blunted; in these patients pyelonephritis may present with a marked reduction of the general condition and humoral inflammatory responses only.

A diagnosis of pyelonephritis is made, when typical symptoms combine with either a urine culture yielding significant bacteriuria with a uropathogenic microorganism or (for a presumptive diagnosis on which to base empirical treatment) with leucocyturia in urinalysis.



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Antibiotic treatment for acute 'uncomplicated' or 'primary' pyelonephritis: a systematic, 'semantic revision'

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Approche diagnostique et thérapeutique de 36 essais randomisés contrôlés (22 adultes, 14 enfants)

Table 1
Main diagnostic and enrolment criteria in adults and children (definitions as reported in the literature)

Study (reference)	Clinical criteria	Main laboratory parameters				Other		
		Fever	Symptoms (as reported in the literature)	Bacteriuria (CFU/mL)	Leucocyturia	Others	Imaging data	Age (years)
Trial of adults								
Naber et al. 2004 [24]	n.s.	Dysuria, frequency, pain or burning during micturition, suprapubic pain, costovertebral angle tenderness	$\geq 10^4$	$\geq 10/\text{mm}^3$ unspun urine	n.s.	None	≥ 18	50% Bacteriological confirmation assumed; observed, microbiological 73.4% (no bacteriological confirmation)
Talan et al. 2004 [25]	n.s.	Chills and flank pain, costovertebral angle tenderness, nausea, symptoms of lower UTI	$\geq 10^5$	$\geq 10/\text{mm}^3$ unspun urine; $\geq 5/\text{mm}^3$ centrifuged urine	n.s.	None	≥ 18	Efficacy valid population: 42% (fever pathogens, sampling errors)
Cox et al. 2002 [28]	$>38^\circ\text{C}$	Dysuria, frequency, urgency, suprapubic pain, flank pain, costovertebral angle tenderness	$\geq 10^5$	$\geq 10/\text{mm}^3$ unspun urine; ≥ 5 WBC/HPF	n.s.	None	≥ 18	Clinical and microbiological 52.3% (culture negative, no visits)
Jimenez-Cruz et al. 2002 [29]	n.s.	Flank pain, costovertebral angle tenderness	$\geq 10^5$	$\geq 10/\text{HPF}$	n.s.	None	>18	Clinical 82.2%; microbiological 78.3%
Naber et al. 2002 [30]	$>38^\circ\text{C}$	Flank pain, percussion pain over the renal bed, pain in the back	$\geq 10^5$ (F) or $\geq 10^4$ (M)	$\geq 10/\mu\text{L}$; $\geq 10/\text{HPF}$	n.s.	None	≥ 18	Clinical 97%; microbiological 80.1%
Sanchez et al. 2002 [31]	$>38^\circ\text{C}$	Flank pain, urinary syndrome	$>10^5$	$>8/\mu\text{L}$	n.s.	None	18-75 (F)	Safety 100% efficacy (microbiological) 72.3%
Tomera et al. 2002 [32]	n.s.	Flank pain, costovertebral angle tenderness	$\geq 10^5$	$\geq 10/\text{HPF}$	n.s.	None	>18	Microbiological 55.7% (none or few pathogens)
Croonberg et al. 2001 [36]	$>38.5^\circ\text{C}$	n.s.	$<10^4$	n.s.	n.s.	None	>18	n.s. Drop-outs: 2%
La Conte et al. 2001 [38]	$>38^\circ\text{C}$	Flank pain, costovertebral angle tenderness, abdominal pain	$>10^5$	$>10^4/\text{mL}$	n.s.	None	>18 (F)	n.s.
Naber et al. 2001 [40]	$>38^\circ\text{C}$	Flank pain, abdominal pain	$>10^5$	$>10/\text{m}^3$	n.s.	US	Adults	Intention to treat 100%; efficacy 76.5%
Talan et al. 2000 [43]	$\geq 38^\circ\text{C}$ (oral), $\geq 38.6^\circ\text{C}$ (rectal)	Flank pain, costovertebral angle tenderness	$>10^4$	$>8/\mu\text{L}$; $>5/\text{HPF}$	n.s.	None	18; pre-menopausal (F)	Efficacy 67.4% (no causative organism, inadequate treatment)
Mombelli et al. 1999 [45]	$>37.4^\circ\text{C}$ (axillary)	Flank pain, costovertebral tenderness, dysuria, frequency urgency	$\geq 10^4$	$\geq 10/\text{HPF}$	WBC $>10000/\mu\text{L}$	None	≥ 18	Microbiological 86.5% (no UTI, other symptoms)
Richard et al. 1998 [46]	$>38^\circ\text{C}$ (oral), $>39^\circ\text{C}$ (rectal) history of fever	Flank pain, costovertebral angle tenderness	$>10^5$	$>5/\text{HPF}$; $>20/\text{LDF}$	WBC $>15000/\mu\text{L}$ Abs-coated bacteria test positive; WBC <i>celvix</i> $>10^4$	None	>18	n.s.



Antibiotic treatment for acute 'uncomplicated' or 'primary' pyelonephritis: a systematic, 'semantic revision'

Giorgina B. Piccoli^{a,*}, V. Consiglio^a, L. Colla^a, P. Mesiano^a, A. Magnano^a, M. Burdese^a, C. Marcuccio^a, E. Mezza^a, V. Veglio^b, G. Piccoli[†]

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Grande hétérogénéité dans les critères diagnostiques (et thérapeutiques !) ne permettant pas de corrélation claire

TABLE 1. Clinical Characteristics of Patients According to Criteria for Acute Pyelonephritis

	Febrile (n = 103)	Afebrile (n = 201)	P Value
Age (yrs)	35.6 ± 18.4	34.8 ± 18.3	NS
Race			
White	37 (36%)	117 (58%)	< .001
Black	64 (62%)	83 (41%)	
Asian	2 (2%)	1 (1%)	
Diabetes mellitus	10 (10%)	24 (12%)	NS
Dysuria	34 (33%)	89 (44%)	NS
Frequency	40 (39%)	95 (47%)	NS
Nausea	45 (44%)	80 (40%)	NS
Vomiting	34 (33%)	51 (25%)	NS
Subjective fever	68 (66%)	42 (21%)	<.0001
Abdominal pain*	33 (32%)	71 (35.3%)	NS
Flank or back pain	64 (62%)	137 (68%)	NS
Temperature (°C)	38.8 ± .8	36.9 ± 0.5	<.001
Pulse (beats/min)	105.3 ± 17.8	85.9 ± 14.4	<.001
Systolic blood pressure (mm Hg)	118.6 ± 20.9	119.8 ± 24.4	NS
Costovertebral angle tenderness	65 (63%)	135 (67%)	NS
Abdominal tenderness†	36 (35%)	96 (48%)	= .04
WBC (1,000/mm ³)	14.0 ± 8.5‡	11.6 ± 5.8§	<.05
Urine culture obtained	77 (75%)	119 (59%)	= .01
Urine culture positive	68 (88%)	82 (69%)	= .003
Hospitalized at initial presentation	27 (26%)	17 (8%)	<.0001

A.G. Pinson et al
Fever in the clinical diagnosis of acute pyelonephritis
Am J Emerg Med, 15 (2) (1997), pp. 148-151

VPP de la fièvre chez les patientes avec symptômes urinaires bas pour le Dx de PNA.

Résultats VPP 0.98

Absence de fièvre rend le Dx moins probable mais ne l'écarte pas formellement

5. La vraie définition de la pyélonéphrite ? Conclusions

- Critères cliniques hétérogènes, pas de recommandations strictes, év présence de fièvre renforce la présomption
- En revanche, une bactériurie est nécessaire, ds l'attente de la culture, une leucocyturie est également valable (cf cystite)
- Bactériurie déf:
 - uropathogène à au moins 10^2 cfu/ml chez une femme présentant les symptômes d'une cystite ou
 - au moins 10^3 cfu/ml chez un homme symptomatique ou chez les patients porteurs d'une sonde urinaire.