

FEBRILE URINARY TRACT INFECTION IN MEN REPORT OF 100 CASES

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INTRODUCTION

- Urinary tract infections (UTI) in men are common especially in elderly.
- UTI in men are classified as complicated and require explorations
- Prostate is usually involved
- Antibiotic therapy must be prolonged in case of prostatitis.

Objectives:

- The aim of this study is to describe the clinical and the epidemiological profile of febrile UTI in adult men

PATIENTS AND METHODS

- Retrospective analytic study between 2004-2010.
- Infectious diseases department in the teaching hospital of Monastir – Tunisia.
- Clinical and epidemiological features were collected from 100 clinical records.

PATIENTS AND METHODS

Inclusion criteria

- Age \geq 15 years.
- Temperature at admission \geq 37.8°C.
- Flank pain or cost vertebral tenderness and/or urinary tract symptoms.
- Leucocyturia $>$ 10/mm³.
- Bacteriuria $>$ 10⁵/ml.

RESULTS

100 patients are included

Patients characteristics

Age (years \pm SD) 51.2 \pm 21.9

Comorbidities

- **Diabetes** 23 (23%)
- Chronic renal failure 4 (4%)
- Human Immunodeficiency Virus 1 (1%)

Risk factors

- **Previous urinary tract infection** 23 (23%)
- **Benign prostatic hyperplasia** 21 (21%)
- Urological surgery 10 (10%)
- Urinal stones 9 (9%)
- Bedrest 9 (9%)
- Urine catheterization 5 (5%)

RESULTS

Clinical symptoms	Numbers (%)
Fever	100 (100%)
Urinary tract symptoms	89 (89%)
• Burning urination	83 (93.4%)
• Dysuria	51 (57.3%)
• Frequency	54 (60.6%)
Flank pain	81 (81%)
Chills	49 (49%)
Abdominal symptoms (nausea, vomiting)	23 (23%)
Prostatic examination (by DRE)	
• Prostatic tenderness	29 (29%)
• Prostatic hypertrophy	11 (11%)
• Prostatic hypertrophy and tenderness	2 (2%)

RESULTS

Biochemistry and hematology	Average \pm SD
White Blood Cells (E/mm ³)	14.10 ³ \pm 0,6.10 ³
C-Reactive protein (mg/l)	101 \pm 8
Blood creatinin (μ mol/l)	106 \pm 6

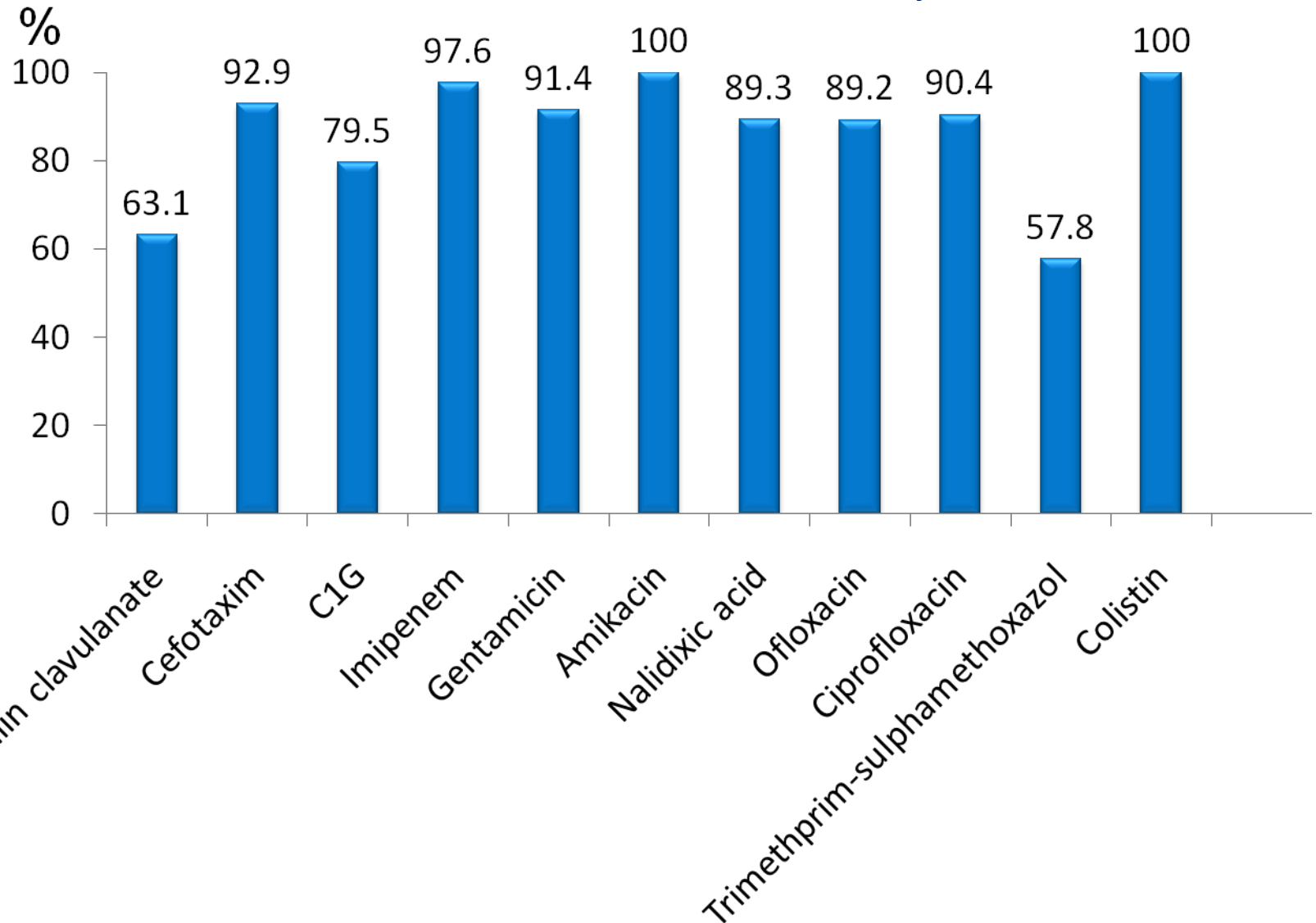


Acute renal failure in 17 cases

Bacteriological results	Number (%)
Positive blood culture	5 (5%)
Urine culture	
• <i>Escherichia coli</i>	76 (76%)
• <i>Klebsiella pneumoniae</i>	12 (12%)
• <i>Enterobacter cloacae</i>	7 (7%)
• <i>Proteus mirabillis</i>	2 (2%)
• <i>Pseudomonas aeruginosa</i>	1 (1%)
• <i>Streptococcus spp.</i>	1 (1%)
• <i>Citobacter freundii</i>	1 (1%)

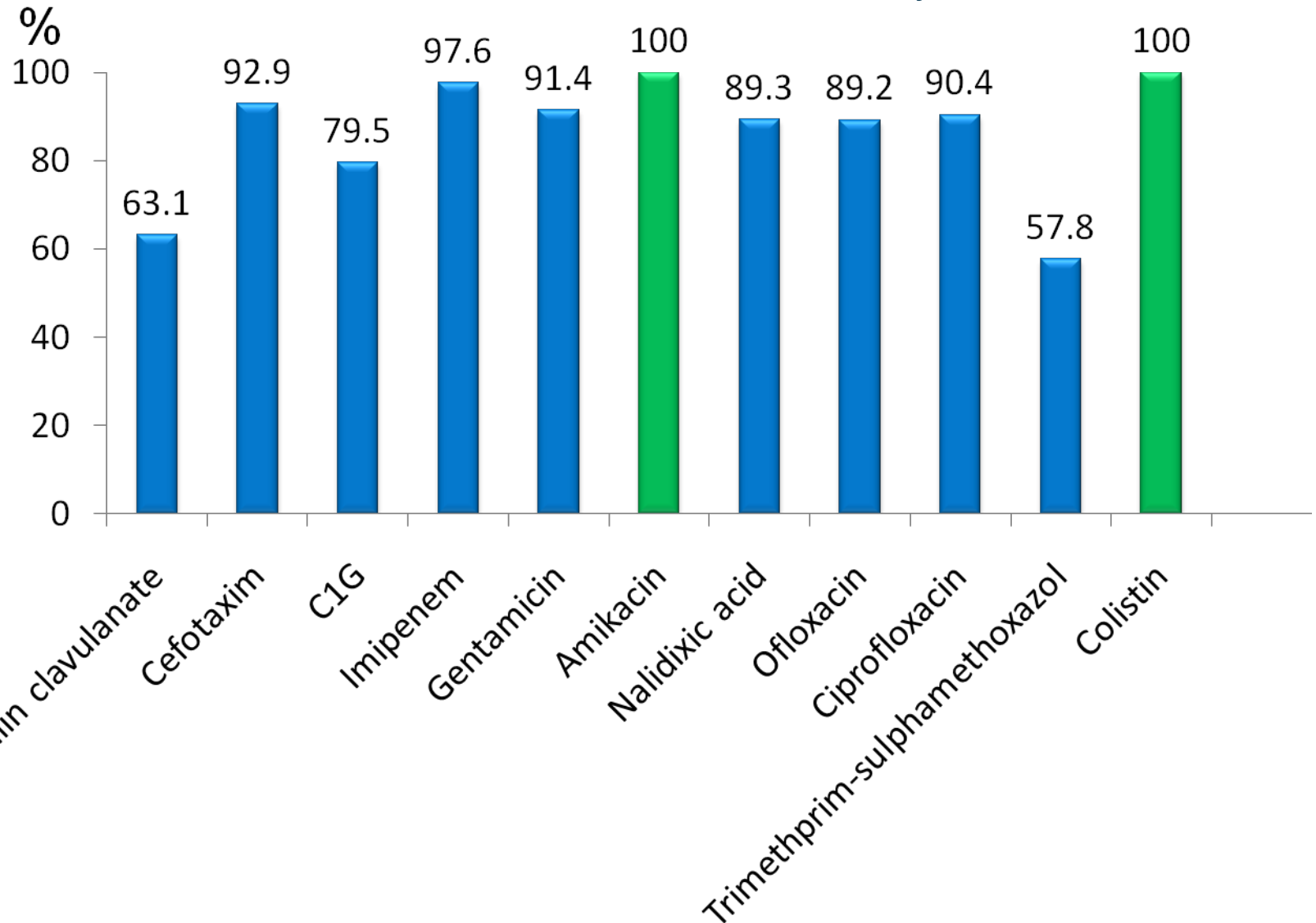
RESULTS

The rates of enterobacteriaceae sensitivity to antibiotics



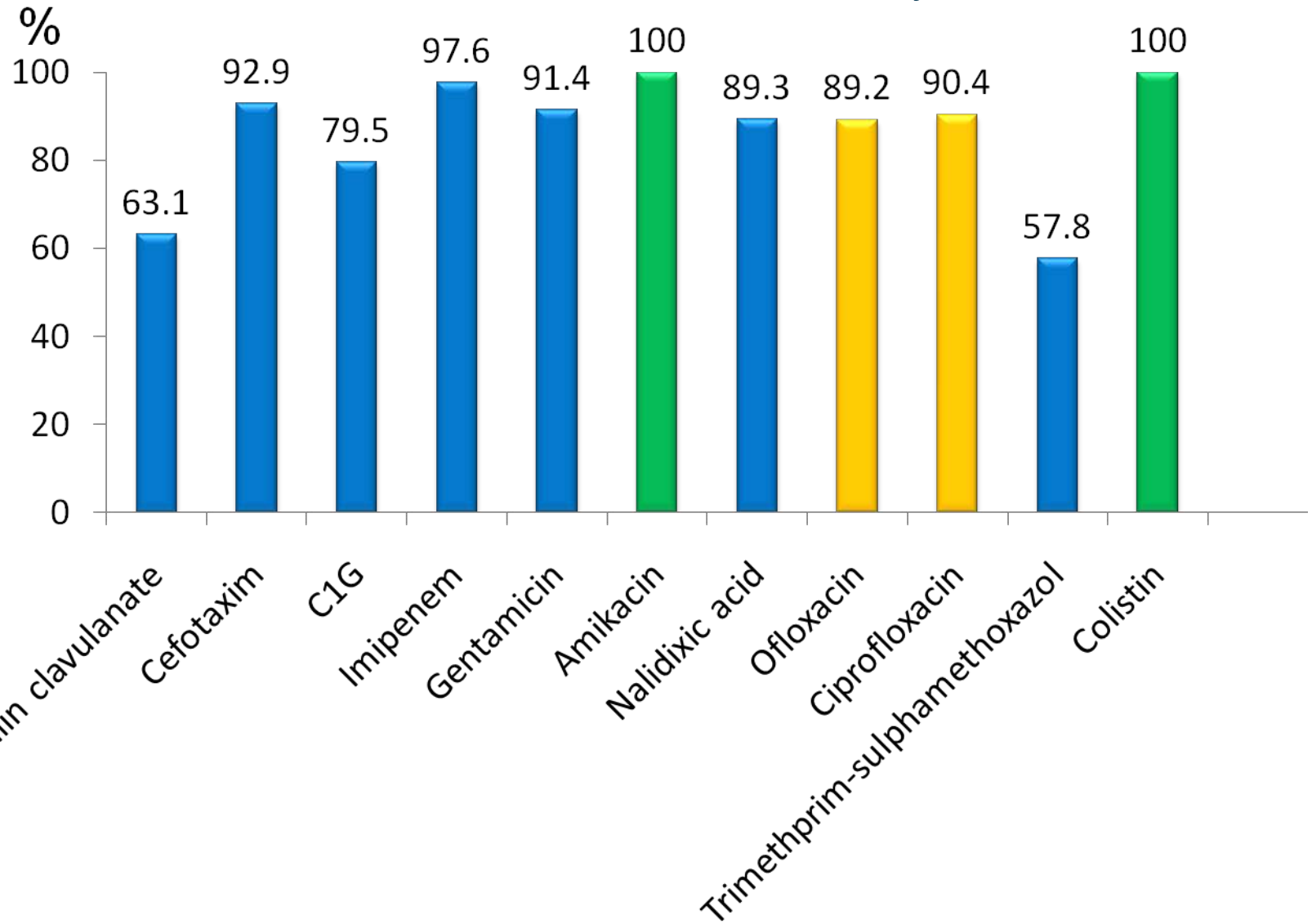
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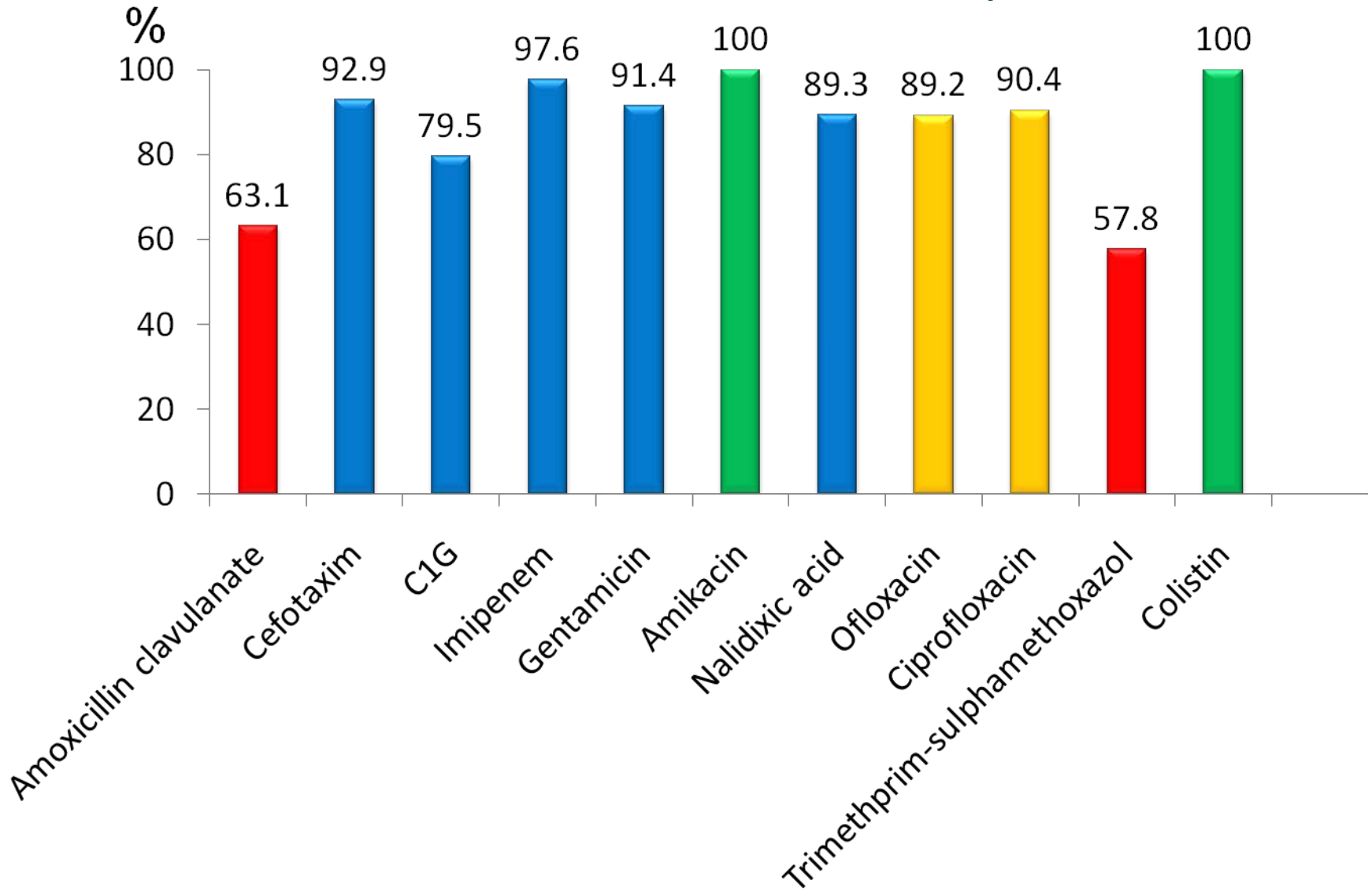
RESULTS

The rates of enterobacteriaceae sensitivity to antibiotics



RESULTS

The rates of enterobacteriaceae sensitivity to antibiotics



RESULTS

Renal and prostatic ultrasonography results	Number (%)
Performed	93/100
• Benign prostatic hyperplasia	21 (22.3%)
• Prostatic calcifications	6 (6.4%)
• Pelvicalyceal dilatation	5 (5.3%)
• Focal nephritis	5 (5.3%)
• Post voiding residue	2 (2.15%)
Not performed	7/100

➔ After these explorations, diagnosis were:

- Acute pyelonephritis: 66 cases (66%)
- Prostatitis associated to acute pyelonephritis: 28 cases (28%)
- Isolated prostatitis: 6 cases (6%)

RESULTS

Treatment	Number (%)
Bithera	21/100 (21%)
• FQ + Aminoglycoside	10
• FQ + β -lactam	6
• β -lactam + Aminoglycoside	5
Monotherapy	79/100 (79%)
• Ciprofloxacin	55 (69.6%)
• Ofloxacin	1(1.26%)
• Cefotaxim	20 (25.3%)
• Gentamicin	1(1.26%)
• Ampicillin	1(1.26%)
• Ertapenem	1(1.26%)

- Mean duration of treatment: 17 days \pm 7,8
- Mean duration of apyrexia: 57.6 \pm 38.4 hours

RESULTS

Evolution	Number (%)
Favorable	90 (90%)
Complications	10 (10%)
• Death	4/10
• Perirenal abscess	3/10
• Septic shock	2/10
• Renal failure	1/10

RESULTS

	AP (n = 66)	Prostatitis (n = 34)	p
Mean age (years)	48.3 ± 22.8	56.8 ± 19.1	0.058
Previous UTI	19 (28.8%)	4 (11.8%)	0.055
Diabetes	17 (25.7%)	6 (17.6%)	0.4
temperature	38.6	38.4	0.4
Flank pain	55 (83.3%)	26 (76.5%)	0.4
Urinary tract symptoms	61 (93.8%)	38 (82.4%)	0.072
Positive blood culture	3 (4.5%)	2 (5.9%)	0.55
Presence of <i>E. coli</i> in urine culture	46 (69.7%)	30 (88.2%)	0.04
Negative urine culture at 48-72 h	60 (93.8%)	32 (97%)	0.49
Monotherapy antibiotic	54 (83.1%)	25 (73.5%)	0.26
Mean duration of hospitalization (days)	8 ± 6	10 ± 5.8	0.019
Mean duration of antibiotic (days)	15 ± 3.9	20 ± 10	0.03
Mean duration of ayrexia (hours)	45.8	54.6	0.11

DISCUSSION

- ❖ Few studies were interested in Febrile UTI in men
- ❖ In literature:
 - The rates of men treated for UTI were generally lower than in women at almost all age groups

Matthews SJ. Am J Geriatric Pharmacotherapy 2011

- *E. coli* was the most frequently isolated uropathogen. It varies between 48% and 78%.

In our study, *E.coli* was isolated in 76%.

- Species of *Proteus* and *Providencia*, and less often *Klebsiella*, *Enterobacter*, *Pseudomonas*, and *Citrobacter*, are also isolated.

Peter Ulleryd, Int J Antimicrob Agents 2003 ; pages 89-93
Lipsky AB, The American Journal of Medicine 1998; pages 327-334

DISCUSSION

- The prostate is co-infected in over 90% of men with febrile UTI.
- In our study: 34% of prostatitis cases were noticed.
- The low number of isolated prostatitis can be explained by the modality of recruitment of patients in our hospital (urological department)
- Routine radiological examination of the upper urinary tract seems dispensable in men with febrile UTI.
- Fluoroquinolones were the first-choice agent to treat UTI in men.

DISCUSSION

- Duration of antibiotic therapy is typically 1 to 2 weeks for acute pyelonephritis and 4 weeks for acute bacterial prostatitis.

Lipsky AB, The American Journal of Medicine 1998; pages 327-334

- These results were demonstrated in our study.
- The rate of UTIs' complications increases with age, urine catheterization and predisposing urological abnormalities

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CONCLUSION

- Febrile urinary tract infections in men are complicated.
- Prostatitis is usually associated to AP.
- As consequence, prostatic infection must be systematically searched.
- Antibiotics with high prostatic diffusion should be prescribed.