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Objective: Quantitatively, general practitioners are an important antibiotics' prescriber, and urinary tract infections (UTI) are their main source of antibiotics' prescription. As French guidelines for management of UTI were amended in 2008, we evaluated in 2013 the management of urinary tract infections by general practitioners in outpatients. We searched to identify the influencing factors of the practices.

Methods: We conducted in June 2013 a prospective survey among GP, aiming to describe their practice and their management of each patient presenting an UTI. A score was attributed to every prescription, assessing the indication, choice, dosing and length of antibiotic treatment, according to an algorithm based on the French guidelines and derived the Gyssens algorithm. Factors influencing these scores were analysed with uni- and multi-variate models.

Results: Eighty seven GP described 145 cases, mainly women (131) (90%). The median (min-max) age of patient was 49 (18-84) years old. They reported 118 cystitis, 14 pyelonephritis and 13 prostatitis. Thirty nine patients (27%) benefited from a urinary strip, 88 patients (61%) from an urinalysis and 36 patients (25%) had no urinary exam at all. One hundred and seventeen patients (81% of the cases) received antibiotics without prior documentation while 18 prescriptions (18%) were primarily documented and 10 (7%) secondary documented. Fosfomycine trometamol (40%) and fluoroquinolones (35%) were the most frequently prescribed antibiotics, compared to beta-lactamine (13%). Antibiotics used were not recommended in this indication in 31 cases (21%), more frequently when the patient was a man ($p < 0.01$) and had a complicated infection ($p < 0.01$), which concerned mainly prostatitis. When antibiotherapy was indicated, there was a better alternative in 27 cases (19%), more frequently in case of a simple infection ($p < 0.01$). The posology was inadequate in 6 cases (4%), more frequently in case of complicated and recurrent infection ($p = 0.037$). The duration was inadequate in 13 (9%), more frequently in case of older people ($p = 0.03$), pyelonephritis ($p < 0.01$) and recurrent infection ($p = 0.022$). The prescription were in accordance with the guidelines in 47% of the cases, which was significantly more frequent when both the GP was young (< 50 years old) ($p = 0.017$) and the patient was young ($p = 0.02$). The most frequently appropriately used antibiotic was fosfomycine trometamol (56 cases) (97%) while the least are the betalactamines (1 case)(5%). The most frequently appropriately treated infection was the simple cystitis (54 cases)(54%) and the least are the prostatitis (13 cases) (23%)

Conclusion: General practitioners inconstantly (47%) followed the guidelines for UTI. The results are very different according to the antibiotics and the infection, and may represent reminiscence from the previous guidelines or difficulty in assessing correctly the diagnosis.

table : antibiotics score distribution

Antibiotic / algorithm result	Adequate antibiotherapy (%)	Duration not recommended (%)	posology not recommended (%)	Best antibiotic alternative (%)	Antibiotic not recommended (%)	Total
Fluoroquinolones	9 (16)	9 (16)	5 (9)	24 (43)	9 (16)	56
Béta-Lactamines	1 (5)	2 (10)	0	0	16 (85)	19
fosfomycine	56 (97)	1 (1,5)	0	0	1 (1,5)	58
other	2 (17)	1 (4)	1 (4)	3 (25)	5 (42)	12
Total	68 (47)	13 (9)	6 (4)	27 (19)	31 (21)	145