Amoxicillin

NOT RECOMMENDED AS AN ESSENTIAL MEDICINE

Section: 6. Anti-infective medicines > 6.2. Antibacterials > 6.2.1. Access group antibiotics

EMLc | ATC codes: J01CA04

Indication	Infectious cystitis ICD11 code: GC00.1
INN	Amoxicillin
Medicine type	Chemical agent
Antibiotic groups	A ACCESS
List type	Core
Formulations	**Oral > Liquid:** 125 mg per 5 mL (as trihydrate) powder for oral liquid ; 250 mg per 5 mL (as trihydrate) powder for oral liquid (EMLc) **Parenteral > General injections > unspecified:** 250 mg in vial (as sodium) powder for injection ; 500 mg in vial (as sodium) powder for injection ; 1 g in vial (as sodium) powder for injection **Oral > Solid > dosage form:** 250 mg (as trihydrate) ; 500 mg (as trihydrate)
EML status history	First added in 2017 (TRS 1006) Removed in 2021 (TRS 1035)
Sex	All
Age	Also recommended for children
Therapeutic alternatives	The recommendation is for this specific medicine
Patent information	Patents have expired in most jurisdictions Read more about patents.
Wikipedia	Amoxicillin
DrugBank	Amoxicillin

Expert Committee recommendation

The Expert Committee noted the recent data from the Global Antimicrobial Resistance Surveillance System which indicate very high levels of resistance to amoxicillin of E. coli in urinary tract infections, and that for this reason the empiric use of amoxicillin for treatment of lower urinary tract infections is now discouraged in multiple international treatment guidelines. The Committee therefore recommended that the indication of treatment of lower urinary tract infections be removed from the listings of amoxicillin on the EML and EMLc.

Background

Amoxicillin was recommended as a first-choice treatment option for empiric treatment of lower urinary tract infections in adults and children in 2017, as part of the comprehensive review of antibiotics for common infectious syndromes (1). The EML and EMLc currently include alternative first-choice treatment options for lower urinary tract infection (nitrofurantoin, sulfamethoxazole + trimethoprim, amoxicillin + clavulanic acid, and single-agent trimethoprim).

Public health relevance

Lower urinary tract infections are very common worldwide and can affect people of any age. According to the Global Burden of Disease study, in 2017 for all ages and both sexes combined, an estimated 274 million new cases of urinary tract infections (lower and upper) occurred globally (2). The incidence of urinary tract infections is highest in women and increases with age and frequency of sexual activity. However, after 65 years of age, rates of lower urinary tract infections in men and women tend to be more similar (3).

Benefits

Evidence supporting the requested change relies on data from a 2020 report by the Global Antimicrobial Resistance Surveillance System (GLASS) on global antimicrobial resistance (4). GLASS data from 22 countries indicate that a median of 75% (range 45–100%) of Escherichia coli urinary isolates are resistant to amoxicillin. In addition, the empiric use of amoxicillin for treatment of lower urinary tract is explicitly discouraged in multiple guidelines because of high rates of antimicrobial resistance to amoxicillin (5–7). GLASS data are not reported for amoxicillin + clavulanic acid or nitrofurantoin. However, several sources indicate that susceptibility of E. coli in urinary isolates remains generally high, in both adults and children (8–10). GLASS data indicate a median of 55% (range 40–70%) of E. coli urinary isolates are resistant to sulfamethoxazole + trimethoprim (4).

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3. Tandogdu Z, Wagenlehner FM. Global epidemiology of urinary tract infections. Curr Opin Infect Dis. 2016;29(1):73–9.
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6. Diagnostic et antibiothérapie des infections urinaires bactériennes communautaires de l'adulte [Diagnosis and antibiotic therapy for community bacterial urinary tract infections in adults]. Paris: Société de Pathologie Infectieuse de Langue Française; 2015 (https://www.infectiologie.com/UserFiles/File/spilf/recos/infections-urinaires-spilf-argumentaire.pdf, accessed 13 August 2021).
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