

Prevalence and antimicrobial resistance profile of *Escherichia coli* isolated from positive urine cultures of outpatients

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Urinary tract infections (UTI) are one of the most prevalent community pathologies worldwide. Due to their large occurrence, these infections are one of the main reasons that lead men and especially women of different age groups to seek treatment in health units. UTI is characterized by the invasion and multiplication of microorganisms in any portion of the urinary tract, which can cause conditions ranging from cystitis to sepsis. The high incidence of these infections implies the frequent adoption of empirical antimicrobial treatments. However, the success of the treatment depends on the resistance profile of the etiological agents, which needs to be monitored periodically. This study aimed to trace the etiological and antimicrobial resistance profiles of positive urine cultures of outpatients obtained by a clinical analysis laboratory, in the city of Espera Feliz-MG (approximately 25,000 inhabitants), and correlate the frequency of UTI with sex and age of outpatients. This was an observational, descriptive cross-sectional study, which included positive urine cultures with antibiogram results. Between January 2019 and December 2021, the laboratory issued 1,051 clinical reports of urine cultures and, of these, 184 (17.5%) had a positive diagnosis for UTI ($\geq 10^5$ CFU/mL). All cases were caused by *Escherichia coli*. Females accounted for 173 (94.0%) of the positive urine cultures, while 11 (6.0%) were from males. 133 (72.3%) *E. coli* samples showed resistance to at least one of the antibiotics tested, being 42.9% of the strains resistant to amoxicillin, 26.1% to cephalexin, 22.3% to chloramphenicol, 19.6% to azithromycin, 11.4% to cefaclor, 9.8% to cephalothin, and 8.1% to ciprofloxacin. We observed that 15.2% of the uropathogens had the multidrug-resistant (MDR) phenotype. The number of MDR *E. coli* was positively correlated with the age of the patients. UTI was more frequent in young females, and the high rate of resistance to amoxicillin observed here suggests a review regarding the use of this drug in the empirical treatment of community UTI in this region. In addition, we observed that resistance to azithromycin, a widely prescribed drug for the treatment of COVID-19, increased significantly after the onset of the COVID-19 pandemic. Knowing the prevalence of etiological agents and their respective resistance profiles makes it possible to optimize the empirical treatment of UTI. In view of the accelerated emergence of MDR uropathogens, the most prudent path is to start antimicrobial treatment only after analyzing the antibiogram.

Key words: Multidrug-Resistant; Community Acquired Urinary Tract Infections; Uropathogens.

Prevalência e perfil de resistência de uropatógenos de pacientes ambulatoriais

As infecções do trato urinário (ITU) são uma das patologias comunitárias mais prevalentes no mundo, muitas vezes tratadas de forma empírica. Por isso, um monitoramento periódico das ITUs é de fundamental importância, visto que os uropatógenos e o padrão de resistência aos antimicrobianos podem variar com o tempo e localidade. Este estudo observacional, descritivo do tipo transversal, incluiu uroculturas positivas com antibiograma de pacientes ambulatoriais realizadas entre 2019 e 2021 em Espera Feliz-MG. As altas taxas de resistência aqui observadas destacam a necessidade de revisão do tratamento empírico de ITU nesta região e conscientização para uso racional da terapia antimicrobiana.

Palavras-chave: Resistência a Múltiplas Drogas; Infecções do Trato Urinário Adquiridas na Comunidade; Uropatógenos.

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