

TÍTULO: HIGH FREQUENCY OF ANTIMICROBIAL RESISTANCE IN A CONVENIENCE SAMPLE OF *Neisseria gonorrhoeae* FROM RIO DE JANEIRO

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The emergence and dissemination of multidrug-resistant *Neisseria gonorrhoeae* has been an important cause of public health concern worldwide. This microorganism has progressively developed resistance and, in many countries, the last validated strategy to treat gonorrhoeae, based on ceftriaxone, has been already implemented. Brazil does not have a nationally coordinated surveillance program for gonorrhoea. Indeed, even local based surveillance studies using consecutive samples are difficult to perform, due to the decentralized structure of the Brazilian public health system and the fragile nature of the microorganism *in vitro*. The present study compiles the antimicrobial resistance profile of a convenience sample of *N. gonorrhoeae* isolates obtained from a clinical laboratory which serves mainly the private health system in Rio de Janeiro. Sixty-five isolates obtained between 2013 and 2015 were analyzed for susceptibility to penicillin, tetracycline, ciprofloxacin, azythromicin and ceftriaxone by disk diffusion, according to CLSI. Among these isolates, 35% and 41% were categorized as resistant, and 65% and 31% as intermediary resistant, to penicilin and tetracyclin respectively. Regarding ciprofloxacin, 57% of resistance and 11% of intermediary resistance was detected. Thirty one percent of isolates were resistant to azythromicin. Resistance to ceftriaxone was not observed. From the 65 isolates studied, 42 were resistant to three or more antimicrobial classes. A protocol published by the Brazilian Ministerio da Saúde in 2015 recomends the use of ciprofloxacin combined to azytromicin to treat non-complicated gonorrhoeae. The same document states that in Rio de Janeiro, São Paulo and Minas Gerais, ciprofloxacin would be contraindicated (based on resistance rates detected in some studies) but a formal and general recommendation of ceftrioxone use is still under evaluation. Although the present collection does not represent a consecutive sample, it indicates a tendency of frequent occurrence of multidrug-resistant *N. gonorrhoea* in Rio de Janeiro. This may point to an imminent necessity of introducing ceftrioxone as the drug of choice for treatment of gonorrhoea in this city. Moreover, since data from other Brazilian cities are scanty, maybe a nationally structured survailance program would be critical not only to identify the time to change treatment protocols but also to preserve ceftriaxone useful.

Palavras-chaves: antimicrobial resistance, *N.gonorrhoeae*

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