TITLE: Study of Neisseria gonorrhoeae strain antibiotic sensitivity profiles (collected in Yaoundé from 2009 to 2014) and determination of reference laboratory (Centre Pasteur, Cameroun) role in the surveillance of bacterial resistance to antibiotics.

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Abstract

The resistance of *Neisseria gonorrhoeae* to antibiotics as recommended by WHO, poses a real public health problem. Thus, a study of the sensitivity profiles and the determination of the role of the reference laboratory in the surveillance of this resistance were carried out in Yaoundé. The aims of this study were to contribute to the therapeutic management of infected patients with appropriate antibiotics; monitor the resistance of *Neisseria gonorrhoeae* to antibiotics; limit its emergence in order to preserve the recommended antibiotics. Objectives of the study were to study the susceptibility profiles of *Neisseria gonorrhoeae* to antibiotics and to determine the role of the laboratory in monitoring this resistance. This retrospective and prospective study, was carried out at Centre Pasteur of Cameroon from 1st January 2009 to 30 September 2014. It consisted of isolation of *Neisseria gonorrhoeae* strains from the human genital specimens, identification and determination of their resistance phenotypes to antibiotics by the diffusion method in agar medium. This highlighted the role of the reference laboratory in resistance monitoring. A total of 193 strains of gonococci were isolated and identified. The most infected age classes were [20-29] and [30-39]. Men were more infected than women (sex ratio 2.01). Several phenotypes of resistance have been described. High resistance to penicillin G (93.3%), tetracycline (58.5%) and nalidixic acid (17.6%) were observed. Ceftriaxone, azithromycin, spectinomycin, and chloramphenicol were effective at resistance rates of 1.0%, 2.6%, 3.1% and 7.2%, respectively. The overall percentage of strains producing penicillinase is 81.1%. Only Ceftriaxone is still effective among the two WHO recommended molecules in Cameroon. The other (ciprofloxacin) should be monitored. As resistances to nalidixic acid (quinolone marker) have been observed since 2010 and continue to grow up exponentially (25% in 2013 and 50% in 2014). Monitoring *Neisseria gonorrhoeae* resistances to antibiotics is one of the best strategies to prevent resistances in order to preserve the recommended molecules. Centre Pasteur of Cameroon is the reference laboratory chosen by the WHO for monitoring the resistance of *Neiseeria gonorrhoeae* to antibiotics in Central Africa.