# Frequency and susceptibility testing of *Neisseria gonorrhoeae* strains isolated from urethral samples in a tertiary hospital in Greece during January 2009-September 2014

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## Introduction

Gonorrhea is the second most common sexually transmitted disease.

The majority of urethral infections caused by *N. gonorrhoeae* among men produces severe symptoms which demand the implementation of the appropriate treatment.

Among women the infection, usually, is asymptomatical and symptoms tend to appear by the prsence of complications (e.g. PID).

*N. gonorrhoeae* has the ability to develop, easily, resistance to antimicrobial factors during the treatment which complicates, even more, the confrontation of the infection.

As from April 2007, quinolones are no longer recommended in the U.S.A. for the treatment of gonorrhea.

## Objective

To study the frequency of *N. gonorrhoeae* strains isolated from urethral swabs of men who were examined in the emergency department of our hospital with symptoms of acute urethritis and their susceptibility testing, over a period of 69 months, in a tertiary hospital of Athens

## Methods

Urethral samples from 366 patients with urethral secretion were send to our laboratory for culture. Direct Gram stain from the samples was performed for the presence of Gram negative diplococci. Chocolate agar, blood agar, MacConkey II and Thayer Martin agar were used for the culture. The isolated stains were identified by the use of conventional methods and by API NH (bio Merieux). Susceptibility testing was perfomed by Kirby-Bauer method, according to CLSI instructions

## Results

**Table 1. Positive urethral swabs for *N. gonorrhoeae***

| Number of samples | Positive | % |
|---|---|---|
| 366 | 74 | 20,2 |

**Table 2. Frequency of N.gonorrhoeae in native and foreign patients**

| Patients | n | % |
|---|---|---|
| Natives | 56 | 76 |
| Foreign | 18 | 24 |
| Total | 74 | 100 |

**Figure 1. Isolated *N. gonorrhoeae* strains per year**

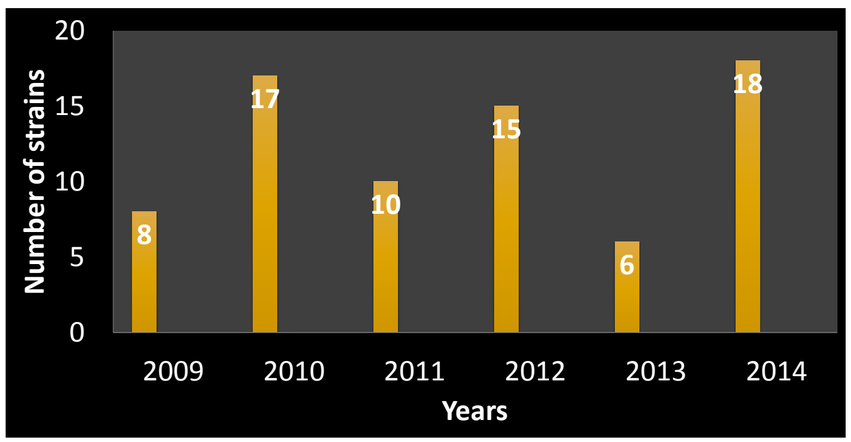



**Figure 2. Resistance of *N. gonorrhoeae* strains to antibiotics (%)**

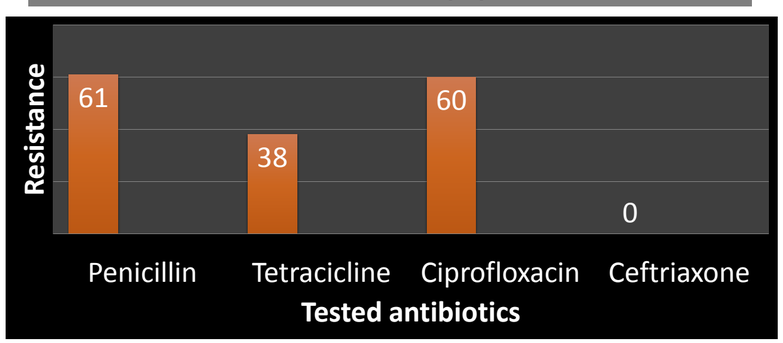
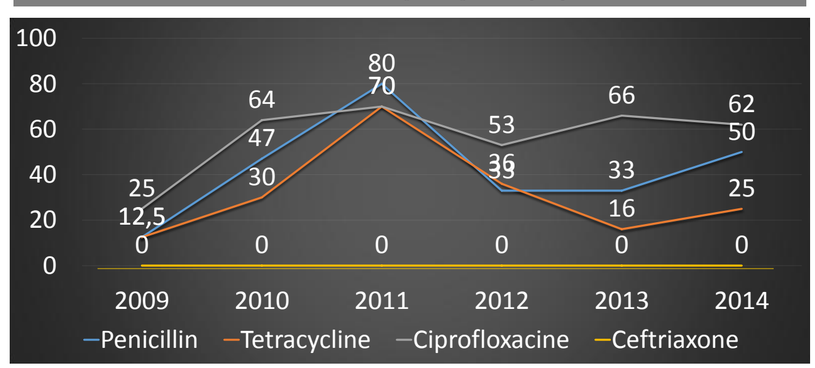



**Figure 3. Resistance of *N. gonorrhoeae* strains to antibiotics per year (%)**




## Conclusions

Urethritis due to N.gonorrhoeae observed in our study was~20%.Recorded resistance to penicillin, tetracycline and ciprofloxacin was high. Ceftriaxone remains the best empirical treatment. Surveillance of resistance of N. gonorrhoeae seems to be a necessity, as well as the implementation of prevention control measures for the spread of the disease.