



**ACADEMIC EXAMS**  
AT THE FACULTY OF MEDICINE OF THE UNIVERSITY OF LISBON  
INSTITUTE OF ADVANCED TRAINING

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**Masters:**

Emerging Infectious Diseases (3rd Edition)

**Name of Student:**

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**Subject of Thesis:**

Study of *Campylobacter* spp Susceptibility to Macrolides and to Fluoroquinolones in Strains isolated in Portuguese Hospitals.

**Date of Defence:**

02/06/2009

**Mark:**

Very Good

**Jury:**

**President:** Professor Francisco Antunes (FMUL)

**Orientator:** Professor Thomas Hãnscheid (FMUL)

**Jury Members:** Professor Luís Távora Távora (IHMTUNL)

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**ABSTRACT**

Gastrointestinal infections caused by *Campylobacter* spp. can manifest as a self-limited gastroenteritis or severe diarrhea. They can also cause secondary complications such as Guillian-Barré syndrome. Recent publications have indicated that *Campylobacter* is a leading cause of food-borne diseases in many countries in Europe, clearly surpassing former frontrunners such as non-typhoid Salmonella. Furthermore, recent studies from Europe have reported a worrying rise in resistance to fluoroquinolones among *Campylobacter*. A report from 2003 singled out Portugal as the only country among 18 European states that had no existing surveillance system for *Campylobacter* infections in 2000. Five Portuguese laboratories participated in this study by providing stored isolates from 2003-2005 and/or strains isolated recently during 2006 and 2007, from stool cultures. Only one sample per patient was included.

A total of 123 samples from five laboratories were available for sensitivity testing. The activity of three fluoroquinolones (ciprofloxacin, moxifloxacin and gatifloxacin) and two macrolides (erythromycin and azithromycin) were tested using E test strips® as well as ciprofloxacin and erythromycin by disk diffusion.

Of the 123 *Campylobacter* isolates, 110 were *Campylobacter jejuni* and 13 were *C. coli*. A total of 80.5%, 51.2% and 47.2% campylobacter isolates were found to be resistant to ciprofloxacin, moxifloxacin and gatifloxacin, respectively, and 6.5% were resistant to macrolides.

This study provides some data on the current situation of fluoroquinolone resistance in Portugal. The results from our study suggest that empirical quinolone therapy alone may not be an option anymore for the treatment of more severe gastroenteritis in Portugal, when *Campylobacter* is the cause the results suggest that the empirical therapy with quinolones alone may not be an option for the treatment of more severe gastroenteritis in Portugal, where *Campylobacter* is the question. This study also highlights the importance of implementing an adequate and up-to-date notification system of *Campylobacter* infections.

**Key words:** *Campylobacter*, fluoroquinolones, macrolides, resistance, Portugal