

FLUOROQUINOLONE SALE AND IT'S THREAT



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Outline

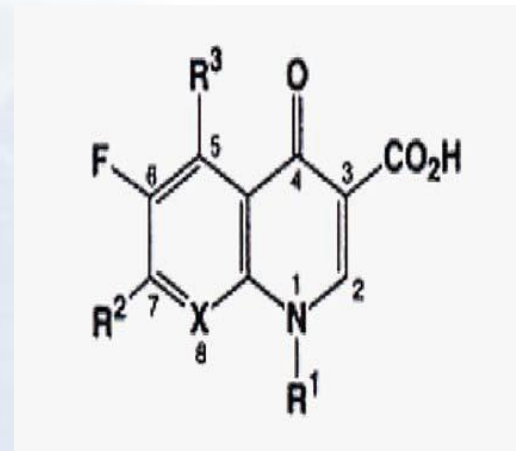
- Background information
- 1st study conducted
- 2nd study conducted
- General conclusion
- Recommendation
- Acknowledgement

Background information

- Ciprofloxacin
- Moxifloxacin
- Ofloxacin
- Levofloxacin
- Gatifloxacin
- Spafloxacin



- Fluoroquinolones may shorten TB treatment and are in 2nd line TB drugs
- However they are used in the treatment of other infections
- RTI, UTI, soft tissue infection



Why fluoroquinolone

Action

- Bactericidal, cause rapid cell death
- Inhibit DNA replication

Safety

- Well tolerated, favorable PK.
- Available both orally and parenterally

Literatures

- 19 patients treated for 9 months (5/19) became culture negative, no side effect (Grosset et al 1985)
- Good AUC/MIC esp Mox. (Schentag et al 2001)
- **Concern about emergence of resistance**

1st study conducted

Title:

Sale of fluoroquinolone

Objective:

Evaluate the total sell of fluoroquinolone in Kilimanjaro

Method:

We conducted a survey



1st study cont.

Analysis:

- Anatomic Therapeutic Chemical (ATC) J01 formula was used.
- Total sale were evaluated using Defined Daily Doses (DDD) per 1000 inhabitants (DID).

Results:

- Fluoroquinolones accounted for 12% of the total antibiotic sales. • J Antimicrob Chemother 2010;65:145–147

2nd study conducted

Title:

- Resistance to fluoroquinolone

Objective:

- To determine the rate of fluoroquinolone resistance

Method:

- A total of 291 *M. tuberculosis* isolates were obtained between April 2009 and June 2010 from patients with smear-positive pulmonary TB and tested for susceptibility to ciprofloxacin, moxifloxacin

2nd study cont

Analysis:

- Drug susceptibility testing was performed. If growth was detected in a fluoroquinolone tube the isolate was labelled resistant

Results:

- Only two (0.7%) of the 291 *m. tuberculosis* isolates were resistant to ciprofloxacin.

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Conclusions

- There is substantial sale of the fluoroquinolones by authorized pharmacies.
- Therefore is a threat as fluoroquinolones are included in the 2nd line of TB treatment
- Our findings indicate that the rate of fluoroquinolone resistant *M. tuberculosis* in Tanzanian patients with TB is low (0.7%)

Recommendations

- Control of antibacterial use in Tanzania requires adequate restriction of antibacterial sale by authorized pharmacies only.
- Future application of fluoroquinolones in TB treatment regimens is promising.

Limitations

- Exclusion of part two pharmacy in the survey of fluoroquinolone sale
- Exclusion of other fluoroquinolone from analysis

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Research sites and lab



THANKS FOR LISTENING

END