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110 - Latebreaker Posters  
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Poster Hall A

I. Community-acquired bacterial infections (including sexually transmitted diseases, mycobacterial infections), and medical practice management

**Pres No: LB-27 - Later Generation Fluoroquinolones (FQ) Are Associated with Improved Treatment Outcomes for Extensively Drug-Resistant Tuberculosis (XDR TB): A Meta-Analysis**

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**Background:** Designing treatment regimens for XDR TB presents a major challenge. Second line drugs are less effective, more toxic, and more costly than first line therapies, and XDR TB strains are by definition resistant to the more potent second line options: the injectable agents and FQs. We conducted a meta-analysis to assess the association of selected therapies and patient demographics with favorable treatment outcomes.

**Methods:** We searched PubMed and EMBASE databases to identify all studies through May 2009 that report XDR TB treatment outcomes to estimate treatment success rates and to assess the effects of study characteristics on treatment success.

**Results:** The search yielded 13 observational studies (n=571 patients). The overall favorable outcomes estimate from the random effects meta-analysis, defined as patients who were cured or completed treatment, was 43.7% (95% CI 32.8-54.5%). The estimate of the proportion of patients who died was 20.8% (95% CI 14.2-27.3%). Studies in which a higher proportion of patients received a later generation FQ (levofloxacin, moxifloxacin, sparfloxacin) were associated with higher favorable treatment outcomes (p=0.001). The effect size was a 4% increase in favorable outcomes for every additional 10% of patients receiving a later generation FQ. Studies with younger patients also had a higher proportion of favorable outcomes (p=0.004).

**Conclusions:** To our knowledge, this study provides the first empirical evidence of the benefit of later generation FQs for treatment of XDR TB and one of the first reports of a positive association between any intervention with improved XDR TB patient care. Continued testing for second generation drug resistance, systematic reporting of treatment interventions and outcomes, and pooling of smaller cohorts are needed to strengthen the evidence base for treatment of this virulent form of TB.

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