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Abstract (publication only)

Cost-effectiveness of azithromycin-based regimens versus levofloxacin for the treatment of non-severe community-acquired pneumonia in a multi-field hospital in Russia

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Objectives: Macrolides combined with beta-lactams and respiratory fluoroquinolones are considered to be first-line treatment options in hospitalized patients with non-severe community-acquired pneumonia (CAP). We aimed to compare cost-effectiveness of azithromycin combined with beta-lactams and levofloxacin for the treatment of non-severe CAP in a multi-field hospital in Russia. Methods: Standard search of prospective randomized clinical trials (CT) with above mentioned treatment strategies was performed in Medline, US National Institutes of Health and EudraCT databases, Cochrane Controlled Trials Register, medical periodicals, etc. for the period since Jan 1995 till Jan 2011. CTs quality was assessed by Jadad scale. Two comparative CTs of azithromycin+ceftriaxone+/-cefuroxime vs. levofloxacin [Zervos M. et al. Treat Respir Med 2004; 3(5):329-36; Frank E. et al. ClinTher 2002; 24 (8):1292-308] were included in meta-analysis. As similar efficacy and safety was shown between comparators a cost-minimisation model was developed from the perspective of Smolensk Regional Clinical Hospital. Only direct medical costs were considered. Drug costs were extracted from hospital receipts notes. The length of hospital stay was calculated to correspond treatment course duration and an average one in Russia (14 days). Uncertainty was explored in a series of one- and two-way sensitivity analyses. Results: The respective total healthcare costs per patient for original and generic drugs are listed in the table. For generic drugs the results were sensitive for IV therapy duration and length of hospital stay, for original ones - insensitive to all variables of interest. Conclusion: Azithromycin+ceftriaxone+/-cefuroxime regimen was more cost effective than levofloxacin monotherapy for the treatment of hospitalized adults with CAP if original drugs were used. The most cost effective strategy for generic treatment regimens depended on IV therapy duration and hospital stay length.

Treatment regimen	Total costs per patient, €			
	Length of hospital stay corresponds routine practice (14 days)		Length of hospital stay corresponds treatment course duration	
	Original drugs	Generic drugs	Original drugs	Generic drugs
azithromycin IV 3 days, azithromycin orally 6 days + ceftriaxone IV 3 days +/- cefuroxime orally 6 days	444.6	389.3	329.8	274.5
levofloxacin IV 3 days, levofloxacin orally 8 days	519.4	382.7	451.0	314.3