



We conducted a systematic review and meta-analysis to summarise the clinical evidence and usage patterns of intravenous fosfomycin from its development to the present time” Grabein et al (2016).

Abstract:

Objectives: We conducted a systematic review and meta-analysis to summarise the clinical evidence and usage patterns of intravenous fosfomycin from its development to the present time.

Methods: PubMed, the Cochrane Library and local journals were searched for relevant studies reporting aggregated data of intravenous fosfomycin use in adults and children, with no restrictions regarding study design. Single case reports were excluded. Data were systematically abstracted for all included studies. Clinical and microbiological efficacy from randomised controlled and comparative observational studies were synthesized using meta-analysis to calculate pooled effect sizes.

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Results: 128 studies on intravenous fosfomycin in 5527 patients were evaluated. Fosfomycin was predominantly used for sepsis/bacteraemia, urinary tract, respiratory tract, bone and

joint, and central nervous system infections. No difference in clinical (OR: 1.44 [95% CI: 0.96–2.15]) or microbiological efficacy (OR: 1.28, [95% CI: 0.82–2.01]) between fosfomycin and other antibiotics was observed in comparative trials. The pooled estimate for resistance development during fosfomycin monotherapy was 3.4% [95% CI: 1.8–5.1%]. Fosfomycin showed a favourable safety profile, with generally mild adverse events not requiring discontinuation of treatment. Included studies explored intravenous fosfomycin as an anti-staphylococcal agent in mono and combination therapy, whereas studies from 1990 on focused on combination therapy (fosfoymcin +  $\beta$ -lactams or aminoglycosides) for challenging infections frequently caused by MDROs.

**Conclusion:** Intravenous fosfomycin can play a vital role in the antibiotic armamentarium, given its long history of effective and safe use. However, well-designed randomised controlled trials are still desired.

#### **Full Text**

Reference:

Grabein, B., Graninger, W., Rodríguez Baño, J., Dinh, A. and Liesenfeld, D.B. (2016) Intravenous fosfomycin – Back to the future. Systematic review and meta-analysis of the clinical literature. *Clinical Microbiology and Infection*. December 9th. .

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