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HIGH COST DRUGS	Fosfomycin	1 of 1		
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BACKGROUND

Fosfomycin is a broad-spectrum bactericidal antibiotic indicated for use in uncomplicated urinary tract infections. The mechanism of action is through inhibition of cell-wall synthesis, though it is not a beta-lactam antibiotic.

SPECTRUM OF ACTIVITY

In vitro, fosfomycin has demonstrated activity against a wide range of gram-positive and gram-negative organisms, including staphylococci (and S saprophiticus), pneumococci, Escherichia coli, Salmonella, Shigella, Haemophilus influenzae, Neisseria spp, and some strains of Pseudomonas aeruginosa, indole-negative Proteus, and Providencia. The drug is less active against Proteus mirabilis, Serratia spp, Enterobacter spp, Klebsiella spp, and enterococci. Bacteroides fragilis and anaerobic gram-positive cocci are resistant

Of particular interest for Calgary LTC is the activity of fosfomycin against resistant organisms. Fosfomycin has demonstrated activity against organisms resistant to aminopenicillins and trimethoprim [34]. Perhaps most importantly, fosfomycin has shown activity against extended spectrum beta-lactamase (ESBL) secreting organisms. These bacteria report heavy resistance rates in the Calgary area (up to 70% to sulfamethoxazole/trimethoprim and 40% for fluoroquinolones), and are typically susceptible to nitrofurantoin, aminoglycosides, and carbapenem antibiotics.

DOSE

Fosfomycin is typically dosed as a single 3 gram (1-satchet) dose mixed in water. There is limited evidence that multi-day dosing provides a greater success rate in females, though multiple-dose therapy for at least three days should be considered in the following groups: males, lower-complicated symptomatic urinary tract infections, cystopyelitis, and hospital acquired infections.

PROTOCOL

HCD funding will be provided only if:

No other oral alternatives are effective or tolerated (taking into consideration culture and sensitivity results, medication allergies, renal function, or drug interactions).

REFERENCES

1. Munoz-Price, LS. Extended Spectrum Beta Lactamases. In: UpToDate, Hooper, D (Ed), UpToDate, 2012

3. Alberta TOP Guidelines – Urinary Tract Infections in Long Term Care. Accessed Nov 7, 2012. (http://www.topalbertadoctors.org/download/400/UTI_algorithm.pdf)

4. AHFS 2012, Mandell Principles & Practice Infectious Diseases 7ed 2009

5. Pitout, J. CLS Microbiology Newsletter – emergence of ESBL (Vol. 4, 2005)

Cross-Reference: E-08 Extended Spectrum Beta Lactamase Treatments