### Abstract

**Objectives:** To determine the susceptibility of the new antifungal drug fusidic acid (FA; CEM-102; Pfizer) to Staphylococcus (S.) and Streptococcus (S.) isolates involved in acute bacterial skin and skin structure infections (ABSSSI) in the USA (2008-2010).

**Methods:** Pathogenic S. aureus (SA) and S. pyogenes (SP), were inhibited at low and high FA MICs (12 and 0.5 mg/L, respectively) compared to other antibiotic agents, such as penicillin (MIC > 8 mg/L) and clindamycin (MIC > 4 mg/L). The susceptibility of faeces S. aureus (SA) and S. pyogenes (SP) was also evaluated for fusidic acid (FA) and other antibacterial agents, including levofloxacin, erythromycin, and clindamycin.

**Results:** FA was the most active agent tested against S. aureus and S. pyogenes, with MIC50/90 values of 0.12/0.25 mg/L for SA and 0.06-0.12 mg/L for SP. The most susceptible strain of S. aureus was ATCC 29213, with an MIC of 0.06 mg/L. The most susceptible strain of S. pyogenes was ATCC 19615, with an MIC of 0.06 mg/L.

**Conclusions:** Fusidic acid is a potent and selective agent against S. aureus and S. pyogenes, with low toxicity and no cross-resistance with other antibiotics. It is a promising therapeutic option for the treatment of ABSSSI caused by these pathogens.