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Colistin monotherapy v/s colistin combination therapy for treatment of *Acinetobacter* infections, a systematic review

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Abstract

Introduction: *Acinetobacter baumannii* is currently responsible of many nosocomial life threatening infections, and growing multiple types of resistance mechanisms causing a great therapeutic challenge. Colistin has been used for the treatment of *Acinetobacter* infections after the emergence of resistant strains as an alternative and salvage therapy. Our study's aim is to compare the efficacy of colistin monotherapy versus colistin in combination therapy, its safety in terms of nephrotoxicity and potential resistance emergence.

Methodology: Online electronic databases were searched for studies evaluating colistin in monotherapy compared to colistin in combination therapy. Seven studies met the inclusion criteria after eliminating duplicates according to a Prism flow chart. Endnote and Review Manager 5.3 softwares were used.

Results: we found that there is no significant difference in the mortality between the group treated with colistin alone compared to colistin in combination with other antibiotics (OR: 0.87 95% CI= 0.62, 1.24 P=0.45), we also found no difference in terms of clinical cure or nephrotoxicity, however, microbiological eradication was found to be superior in the combination therapy group (OR: 1.88 95% CI = 1.13, 3.12 p = 0.01).

Conclusion: Colistin is a safe and effective option in monotherapy as in combination therapy for the treatment of *Acinetobacter baumannii* infections. Larger RCTs are needed.

Key words: *Acinetobacter baumannii*; colistin; monotherapy; combination therapy; nosocomial infections.

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