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Abstract (publication only)

Colistin in management of multidrug-resistant Acinetobacter baumannii infections

F. Simsek*, T. Yildirmak, H. Gedik, N. Iris, Ç. Arabaci, M. Ersöz (Istanbul, TR)

Objective: In this study, it is aimed to evaluate the outcome of colistin therapy as monotherapy versus combination therapy in the multidrug-resistant Acinetobacter baumanii infections. Methods: This case-control study was conducted at a 800-bed training hospital in Istanbul, Turkey, from August 2008 to May 2011. Patients, who received colistin as monotherapy or combinated with one of other antimicrobials less than 24 h or received antimicrobial regimens without colistin were excluded from the analysis. Response to colistin treatment was defined as clinical and microbiologic evaluation. Results: Totally 44 patients, who were treated with colistin as a monotherapy or combinated with one of those antibiotics including carbapenems, rifampicin and tigecycline due to their 44 attacks with A.baumannii and fulfilled the study criteria, were included into the study. Of those, 31 patients (70%) were male, mean age was 51,71±18,82 years (14–87), length of stay at hospital prior to A.baumannii infection was 19,25±17,51 days (3–95 days) and also 39 patients were supported with mechanic ventilation during 38,58±29,96 days (2–205 days) in intensive care unit (ICU). Comorbid conditions were reported in 15 patients, and also 26 patients had been treated with other antibiotics due to accompanying another infections. There was no significant difference between colistin monotherapy and colistin combinated therapy in treatment of VAP and blood stream infection in terms of clinical and microbiologic response (p>0,05). Microbiologic response was found significantly higher in 31 of 44 patients than clinical response that achieved in 18 of 44 patients in overall response (p=0,005, Table.1). Ten-day mortality rates was found 27% (12/44), 30-day mortality was found 38% (17/44). Mortality rates were found similar in patiens that received colistin within 72-hour of identified A.baumannii infection and in patients that received colistin after 72-hour of identification (57% versus 58%,p=0,651). Mortality rate was significantly higher in patients, who were supported with mechanic ventilation more than 10 days (n:20, 31%,OR=9,09; 95% CI 0,940-87,95; p=0,023). Conclusion: Colistin should be thought as a monotherapy for treatment of A.baumannii infections decreasing the cost and drug burden compared to combination therapy that did not decrease mortality.Patients with prolonged duration of ventilation are likely more to have increased mortality.

Table. 1 : Clinical response rates of colistin monotherapy and combination therapies with respect to site of infections

Site of infection	Therapy	Clinical response	Microbiologic respon se
VAP (n:30)	Colistin monotherapy	5/11	8/11
	Colistin+ Rifampicin	5/8	8/8
	Colistin+ Carbapenem	0/3	0/3
	Colistin+ Tigecycline+ Rifampicin	0/2	0/2
	Colistin+ Tigecycline	1/4	2/4
	Colistin+ Carbapenem+ Rifampicin	1/2	1/2
Blood stream infection (n:6)	Colistin monotherapy	1/2	2/2
	Colistin+ Sulbactam-cephaperasone	1/1	1/1
	Colistin+ Rifampicin	1/3	2/3
Nosocomial pneumonia (n:1)	Colistin+ Carbapenem	0/1	0/1
Urinary tract infection (n:1)	Colistin+ Carbapenem+ Rifampicin	0/1	1/1
Surgical site infection (n:2)	Colistin monotherapy	2/2	2/2
Meningitis (n:2)	Colistin+ Carbapenem+ Rifampicin	0/2	2/2
Surgical site infection +VAP (n:1)	Colistin monotherapy	0/1	0/1
Central-line associated blood stream infection (n:1)	Colistin+ Rifampicin	1/1	1/1
Total (n:44)		**18/44**	**31/44**