Table 32: Clinical evidence profile: Comparison 3. Single IV antibiotic *versus* combination IV antibiotic for pulmonary exacerbations with *P aeruginosa*

Quality assessment							No of patients		Effect			
No of studies	**Design**	**Risk of bias**	**Inconsistency**	**Indirectness**	**Imprecision**	**Other considerations**	**Single IV antibiotic**	**Combination IV antibiotic**	**Relative (95% CI)**	**Absolute**	**Quality**	**Importance**
Eradication: number of people in whom pseudomonas isolates were eradicated at end of course (follow-up 10 days) [Piperacillin *versus* piperacillin + tobramycin]												
1(McCarty 1988)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision[2]	none	5/19 (26.3%)	12/19 (63.2%)	RR 0.42 (0.18 to 0.95)	366 fewer per 1000 (from 32 fewer to 518 fewer)	LOW	CRITICAL
FEV_1 (relative change) (follow-up 10 - 14 days; measured with: %; Better indicated by higher values) [ceftazidime *versus* tobramycin + ticarcillin]												
1 (Gold 1985)	randomised trials	serious[3]	no serious inconsistency	no serious indirectness	serious imprecision[4]	none	17	13	-	MD 19.6 lower (38.26 to 0.94 lower)	LOW	CRITICAL
FEV_1 (absolute change) (follow-up 12 days; measured with: ml ; Better indicated by higher values) [Colistin *versus* colistin & "other"]												
1 (Conway	randomised trials	very serious[5]	no serious inconsistency	no serious indirectness	no serious	none	36	35	-	MD 160 lower	LOW	CRITICAL

Quality assessment							No of patients		Effect			
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Single IV antibiotic	Combination IV antibiotic	Relative (95% CI)	Absolute	Quality	Importance
1997)					imprecision					(309.72 to 10.28 lower)		
FEV_1 % predicted (absolute change) (follow-up: 14 days; Better indicated by higher values) [ceftazidime *versus* tobramycin + piperacillin]												
1 (De Boeck 1989)	randomised trials	serious[3]	no serious inconsistency	no serious indirectness	very serious[6]	none	11	10	-	MD 1 higher (8.85 lower to 10.85 higher)	VERY LOW	CRITICAL
Time to readmission (follow-up: 24 to 26 months; Better indicated by lower values) [ceftazidime *versus* tobramycin + piperacillin]												
1 (De Boeck 1989)	randomised trials	serious[3]	no serious inconsistency	no serious indirectness	very serious[7]	none	9	10	-	MD 1 lower (5.52 lower to 3.52 higher)	VERY LOW	IMPORTANT
Number of admissions, requiring IV antibiotics or death (follow-up 3 months) [ceftazidime *versus* tobramycin + ticarcillin]												
1 (Wesley 1988)	randomised trials	serious[8]	no serious inconsistency	no serious indirectness	very serious[7]	none	7/12 (58.3%)	5/10 (50%)	RR 1.17 (0.53 to 2.55)	85 more per 1000 (from 235 fewer to 775 more)	VERY LOW	IMPORTANT

Quality assessment							No of patients		Effect			
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Single IV antibiotic	Combination IV antibiotic	Relative (95% CI)	Absolute	Quality	Importance
Mortality (follow-up 4 months) [ceftazidime *versus* tobramycin & ticarcillin]												
1 (De Boeck 1989)	randomised trials	serious[9]	no serious inconsistency	no serious indirectness	serious[10]	none	1/10 (10%)	1/11 (9.1%)	RR 1.1 (0.08 to 15.36)	9 more per 1000 (from 84 fewer to 1000 more)	LOW	IMPORTANT
Mortality (follow-up 12 weeks) [Colistin *versus* colistin + "other"]												
1 (Conway 1997)	randomised trials	very serious[5]	no serious inconsistency	no serious indirectness	serious[10]	none	0/36 (0%)	1/35 (2.9%)	RR 0.32 (0.01 to 7.7)	19 fewer per 1000 (from 28 fewer to 191 more)	VERY LOW	IMPORTANT
Adverse effects: liver transaminase enzyme elevation (follow-up 10-14 days) [ceftazidime *versus* tobramycin + ticarcillin]												
2 (Gold 1987 and Wesley 1988)	randomised trials	serious[11]	no serious inconsistency	no serious indirectness	very serious[7]	none	4/29a (13.8%)	2/23[a,b] (8.7%)	RR 1.53 (0.33 to 7.11)	46 more per 1000 (from 58 fewer to 531 more)	VERY LOW	IMPORTANT

Quality assessment							No of patients		Effect			
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Single IV antibiotic	Combination IV antibiotic	Relative (95% CI)	Absolute	Quality	Importance
Adverse effects: neurological adverse effects (follow-up 12 days) [Colistin *versus* combination anti-pseudo]												
1 (Conway 1997)	randomised trials	very serious[5]	no serious inconsistency	no serious indirectness	no serious imprecision	none	33/35 (94.3%)	36/36 (100 %)	RR 0.94 (0.86 to 1.04)	60 fewer per 1000 (from 140 fewer to 40 more)	LOW	IMPORTANT
Adverse effects: rash (follow-up 10 days) [piperacillin *versus* piperacillin + tobramycin]												
1 (McCarty 1988)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[7]	none	0/8 (0%)	1/9 (11.1 %)	RR 0.37 (0.02 to 7.99)	70 fewer per 1000 (from 109 fewer to 777 more)	VERY LOW	IMPORTANT
Adverse effects: fever (follow-up 10 days) [piperacillin *versus* piperacillin + tobramycin]												
1 (McCarty 1988)	randomised trials	very serious[1]	no serious inconsistency	no serious indirectness	very serious[7]	none	1/8 (12.5%)	1/9 (11.1 %)	RR 1.12 (0.08 to 15.19)	13 more per 1000 (from 102 fewer to	VERY LOW	IMPORTANT

Quality assessment							No of patients		Effect			
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Single IV antibiotic	Combination IV antibiotic	Relative (95% CI)	Absolute	Quality	Importance
										1000 more)		
Adverse effects: proteinuria (follow-up 10 - 14 days) [ceftazidime *versus* tobramycin+ticarcillin]												
1 (Gold 1985)	randomised trials	serious[3]	no serious inconsistency	no serious indirectness	very serious[7]	none	1/17[a] (5.9%)	1/17[a] (5.9%)	RR 1 (0.07 to 14.72)	0 fewer per 1000 (from 55 fewer to 807 more)	VERY LOW	IMPORTANT
Adverse effects: renal toxicity - Change in blood urea (mmol/l) (follow-up 12 days; Better indicated by lower values) [colistin *versus* combination anti-pseudo]												
1 (Conway 1997)	randomised trials	very serious[5]	no serious inconsistency	no serious indirectness	serious[12]	none	36	35	-	MD 0.26 lower (0.93 lower to 0.41 higher)	VERY LOW	IMPORTANT
Adverse effects: renal toxicity - Change in serum creatinine (mmol/l) (follow-up 12 days; Better indicated by lower values) [colistin *versus* combination anti-pseudo]												
1 (Conway 1997)	randomised trials	very serious[5]	no serious inconsistency	no serious indirectness	very serious[7]	none	36	35	-	MD 8.85 higher (0.66 lower to	VERY LOW	IMPORTANT

Quality assessment							No of patients		Effect			
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Single IV antibiotic	Combination IV antibiotic	Relative (95% CI)	Absolute	Quality	Importance
										18.36 higher)		

Abbreviations: CI: confidence interval; FEV_1: forced expiratory volume in 1 second; IV: intravenous; MD: mean difference; mmol/ l: millimoles per litre; RR: risk ratio
a Gold 1985: total of 34 treatment observations in N=30
b Wesley 1988: total of 23 observations in N=13
1 The quality of the evidence was downgraded by 2 due to no blinding and 3 participants were included twice in analysis
2 Minimal important difference for this outcome (MID) = any difference is clinically significant
3 The quality of the evidence was downgraded by 1 due to no blinding.
4 The quality of the evidence was downgraded by 1 as 95% CI crossed 1 clinical MID
5 The quality of the evidence was downgraded by 2 due to single blinding and 18 participants were enrolled twice.
6 The quality of the evidence was downgraded by 2 due as 95%CI crossed 2 clinical MIDs.
7 The quality of the evidence was downgraded by 2 as 95% CI crossed 2 default MIDs
8 The quality of the evidence was downgraded by 1 as 13 participants received 23 courses of treatment.
9 The quality of the evidence was downgraded by 1 due to multiple enrolment of participants (40 participants contribute to 46 treatment episodes).
10 The quality of the evidence was downgraded by 1, as the 95% CI crossed the null effect (mortality could either decrease or increase)
11 The quality of the evidence was downgraded by 1 due lack of blinding in 1 trial, and because some participants were enrolled twice
12 The quality of the evidence was downgraded by 1 as 95% CI crossed 1 default MID