SUPPLEMENTARY MATERIAL

Table S1. Checklist of items according to STROBE document

Table S2. Susceptibility of 101 isolates of extensively drug-resistant *Pseudomonas aeruginosa* to different antimicrobial agents, according to EUCAST criteria.

Table S3. Sensitivity Analyses for the monotherapy with amikacin or CMS versus other antibiotic treatments.

Table S4. Microbiology and drug safety outcomes, comparing amikacin or CMS with other antibiotic treatments in overall and propensity-matched cohorts.

Table S1. Checklist of items according to STROBE document.

	Recommendation	Assessment in article
Title and abstract	(*a*) Indicate the study design with a commonly used term in the title or abstract	Study design specified in title and abstract
	(*b*) Provide an informative and balanced summary in the abstract of what was done and what was found	Balanced summary included in the abstract
Background/ rationale	Explain the scientific background and rationale for the investigation being reported	The scientific background and rationale are included in the Introduction
Objectives	State specific objectives, including any pre-specified hypotheses	Pre-specified hypothesis and objectives are stated in the Introduction
Study design	Present key elements of study design early in the paper	Study design described in the first part of Methods
Setting	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	Described in Methods
Participants	(*a*) Give the eligibility criteria and the sources and methods of selection of participants. Describe methods of follow-up	Described in Methods
	(*b*) For matched studies, give matching criteria and number of exposed and unexposed	This is not a matched study
Variables	Clearly define all outcomes, exposures, predictors, potential confounders and effect modifiers. Give diagnostic criteria, if applicable	Defined in Methods
Data sources/ measurement	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	Specified in Methods. The same methods for data collection of data were used in the groups.
Bias	Describe any efforts to address potential sources of bias	Selection bias: inclusion of consecutive cases. Information bias: use of well defined, standard, easy to collect variables. Use of soft and hard outcome variables. Indication bias: use of propensity score analysis
Study size	Explain how the study size was arrived at	The attempted sample size was specified in Methods
Quantitative variables	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	Quantitative variables were handled as such. No groupings were made
Statistical methods	(*a*) Describe all statistical methods, including those used to control for confounding	Included in Methods

	(*b*) Describe any methods used to examine subgroups and interactions	Included in Methods
	(*c*) Explain how missing data were addressed	Patients with missing data in the studied outcomes were excluded
	(*d*) If applicable, explain how loss to follow-up was addressed	Patients with loss of follow-up were excluded
	(*e*) Describe any sensitivity analyses	Included in Methods and suplemmentary table 3
Participants	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed	Included in Results (Figure 1)
	(b) Give reasons for non-participation at each stage	Specified in Figure 1
	(c) Consider use of a flow diagram	Figure 1
Descriptive data	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	Table 1
	(b) Indicate number of participants with missing data for each variable of interest	Figure 1
	(c) Summarise follow-up time (eg, average and total amount)	Information for 90 days was available from all included patients
Outcome data	Report numbers of outcome events or summary measures over time	For clinical failure and mortality outcome: specified in Results (text) For microbiological assessment and adverse events outcome: Table S3.
Main results	(*a*) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included	Specified in Results (Tables 2, 3, S3)
	(*b*) Report category boundaries when continuous variables were categorized	Continuous variables were not categorized
	(*c*) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	Not applicable
Other analyses	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	Specified in Results and suplemmentary table 3
Key results	Summarise key results with reference to study objectives	Specified in Abstract and Discussion
Limitations	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	Included in Discussion
Interpretation	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	Included in Discussion

Generalisability	Discuss the generalisability (external validity) of the study results	Included in Discussion
Funding	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	Included

Table S2. Susceptibility of 101 isolates of extensively drug-resistant *Pseudomonas aeruginosa* to different antimicrobial agents, according to EUCAST criteria.

Antimicrobial agent	No. (%) of susceptible isolates	No. (%) of resistant isolates
Aztreonam	1 (1)	15 (14.9)
Ceftazidime	1 (1)	93 (92.1)
Cefepime	1 (1)	89 (88.1)
Piperacillin-tazobactam	0 (0)	101 (0)
Imipenem	1 (1)	94 (93.1)
Meropenem	1 (1)	75 (74.3)
Ciprofloxacin	0 (0)	101 (0)
Amikacin	43 (42.6)	16 (15.8)
Gentamicin	0 (0)	101 (0)
Tobramycin	2 (2)	99 (98)
Colistin	101 (100)	0 (0)

Table S3. Sensitivity Analyses for the monotherapy with amikacin or CMS Versus other antibiotic treatments.

Outcome	Adjusted OR (95% CI)	p value
Clinical failure at Day 7		
Age (years), m (IQR)	1.08 (0.99-1.17)	0.058
Charlson comorbidity index, m (IQR)	1.27 (0.88-1.83)	0.201
SOFA score, m (IQR)	1.12 (0.77-1.63)	0.548
Amikacin or CMS treatment	1.88 (0.31-10.79)	0.508
Clinical failure at End of treatment		
Age (years), m (IQR)	1.08 (1.01-1.17)	**0.045**
Charlson comorbidity index, m (IQR)	1.14 (0.79-1.64)	0.487
SOFA score, m (IQR)	1.1 (0.76-1.62)	0.626
Amikacin or CMS treatment	5.04 (0.53-47.84)	0.159
Outcome	**Adjusted HR (95% CI)**	**p value**
30-day mortality		
Age (years), m (IQR)	1.4 (1.06-1.84)	**0.018**
Charlson comorbidity index, m (IQR)	3.07 (0.87-10.89)	0.082
SOFA score, m (IQR)	1.77 (1.01-3.1)	**0.047**
Amikacin or CMS treatment	11.64 (0.3-447.8)	0.188
90-day mortality		
Age (years), m (IQR)	1.07 (0.99-1.14)	0.078
Charlson comorbidity index, m (IQR)	1.46 (1.09-1.96)	**0.012**
SOFA score, m (IQR)	1.4 (1.06-1.85)	**0.017**
Amikacin or CMS treatment	0.73 (0.22-2.43)	0.607

Abbreviations: CMS (colistimethate sodium), SOFA (Sequential Organ Failure Assessment), m (median), IQR (interquartile range), OR (Odds Ratio), HR (Hazard Ratio), CI (confidence interval).

Table S4. Microbiology and drug safety outcomes, comparing amikacin or CMS with other antibiotic treatments in overall and propensity-matched cohorts.

		Overall cohort			Propensity-matched cohorts
Outcome	**Amikacin or CMS treatment (n=48), n (%)**	**Other treatments (n=53), n (%)**	**OR (95% CI)**	**AOR[2] (95% CI)**	**AOR[3] (95% CI)**
Microbiology assessment[1]					
Microbiological clearance	18 (51.4)	33 (78.6)	0.29 (0.11-0.78)	0.43 (0.14-1.36)	0.72 (0.33-1.58)
Emergence of resistance	4 (13.3)	1 (3.23)	4.62 (0.48-43.94)		
Relapse	6 (12.5)	12 (22.6)	0.49 (0.17-1.42)		
Reinfection	10 (20.8)	14 (26.4)	0.73 (0.29-1.85)		
Adverse events					
Acute kidney injury	9 (18.8)	18 (34)	0.45 (0.18-1.13)		
RIFLE-R	5 (55.6)	9 (50)	1.25 (0.25-6.23)		
RIFLE-I	1 (11.1)	4 (22.2)	0.44 (0.04-4.62)		
RIFLE-F or more	3 (33.3)	5 (27.8)	1.3 (0.23-7.32)		
Clostridioides difficile infection	0 (0)	6 (11.3)	-		
Other side effects[4]	1 (1.9)	1 (2.1)	1.11 (0.07-18.19)		

Abbreviations: CMS (colistimethate sodium), OR (Odds Ratio), AOR (adjusted Odds Ratio), CI (confidence interval).

[1] In patients who had a follow-up urine culture, *N=51*.

[2] Variables included in the adjustment model: age, Charlson comorbidity index, SOFA (Sequential Organ Failure Assessment) score, amikacin or CMS treatment group, and propensity score.

[3] Variables included in the adjustment model: age, Charlson comorbidity index, SOFA (Sequential Organ Failure Assessment) score, and amikacin or CMS treatment group.

[4] One patient treated with CMS developed a generalized rash, and another in the non-colistin, amikacin monotherapy group, hematologic cytopenia.