

***Seven Versus Fourteen Days of Antibiotics for Gram-Negative Bacteremia from a Urinary
Tract Source:
A Systematic Review and Meta-Analysis***

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Search Strategy

PubMed Search

Search Term:

("bacteremia"[MeSH Terms] OR "bacteremia"[Title/Abstract] OR "bloodstream infection"[Title/Abstract]) AND ("antibiotic therapy"[Title/Abstract] OR "antibiotic treatment"[Title/Abstract] OR "anti-bacterial agents"[MeSH Terms]) AND ((("7 days"[Title/Abstract] OR "seven days"[Title/Abstract]) OR ("10 days"[Title/Abstract] OR "ten days"[Title/Abstract]) OR "short course"[Title/Abstract] OR "short-duration"[Title/Abstract]) AND ("14 days"[Title/Abstract] OR "fourteen days"[Title/Abstract] OR "long course"[Title/Abstract] OR "long-duration"[Title/Abstract]) AND ("treatment duration"[Title/Abstract] OR "duration of therapy"[Title/Abstract]) NOT ("Staphylococcus aureus"[MeSH Terms] OR "Staph aureus"[Title/Abstract]))

- **Total Results:** 51 articles
- **Filtered Results:** After limiting to randomized controlled trials (RCTs), 6 articles remained.
- **Included Studies:** Upon full-text review, 6 studies met the inclusion criteria:
 - Chotiprasitsakul et al
 - Von Dach et al
 - Yahav et al
 - McAteer et al/Tingsgård et al
 - BALANCE investigators

EMBASE Search

Search Term:

("bacteremia"[MeSH Terms] OR "bacteremia"[Title/Abstract] OR "bloodstream infection"[Title/Abstract]) AND ("antibiotic therapy"[Title/Abstract] OR "antibiotic treatment"[Title/Abstract] OR "anti-bacterial agents"[MeSH Terms]) AND ((("7 days"[Title/Abstract] OR "seven days"[Title/Abstract]) OR ("10 days"[Title/Abstract] OR "ten days"[Title/Abstract]) OR "short course"[Title/Abstract] OR "short-duration"[Title/Abstract]) AND ("14 days"[Title/Abstract] OR "fourteen days"[Title/Abstract] OR "long course"[Title/Abstract] OR "long-duration"[Title/Abstract]) AND ("treatment duration"[Title/Abstract] OR "duration of therapy"[Title/Abstract]) NOT ("Staphylococcus aureus"[MeSH Terms] OR "Staph aureus"[Title/Abstract]))

- **Total Results:** 51 articles
- **Filtered Results:** After removing 1 duplicate, 51 articles remained.
- **Included Studies:** No additional studies met inclusion criteria beyond those identified in the PubMed search.

Manual Search

ClinicalTrials.gov search identified 28 registered trials, but no further eligible studies were available due to unpublished results or non-aligned outcomes.

Final Included Studies

- **Total Studies:** 6 RCTs
- **Studies Included:**
 - Chotiprasitsakul et al
 - Von Dach et al
 - Yahav et al
 - McAteer et al/Tingsgård et al
 - BALANCE investigators

ROB (Risk of Bias) 2.0



GRADE Assessment Table

Outcome	Effect Size (95% CI)	Number of Studies	Certainty (GRADE)
30-day Mortality	0.97 [0.64–1.47]	2 RCTs, 1 Obs	⊕⊕⊖⊖Low
30-day Recurrence	1.38 [0.80–2.37]	1 RCT, 1 Obs	⊕⊕⊖⊖Low
90-day Mortality	0.90 [0.77–1.06]	3 RCTs, 1 Obs	⊕⊕⊖⊖Low
90-day Recurrence	0.68 [0.45–1.01]	2 RCTs, 1 Obs	⊕⊕⊖⊖Low

Sensitivity Analysis

30-Day Mortality – Sensitivity Analysis

Analysis Type	Risk Ratio (95% CI)	Heterogeneity (I ²)	Interpretation
Original Analysis	0.97 [0.64–1.47]	0%	Non-significant difference
Leave-One-Out: Chotiprasitsakul et al 2018	1.52 [0.26–8.97]	0%	Wide CI, non-significant
Leave-One-Out: Von Dach et al 2020	0.95 [0.62–1.45]	0%	Non-significant difference
RCT Only (Von Dach et al 2020)	1.52 [0.26–8.97]	—	Wide CI, non-significant
Observational Only (Chotiprasitsakul et al 2018)	0.95 [0.62–1.45]	—	Non-significant difference

30-Day Recurrence – Sensitivity Analysis

Analysis Type	Risk Ratio (95% CI)	Heterogeneity (I ²)	Interpretation
Original Analysis	1.38 [0.80–2.37]	0%	Non-significant difference
Leave-One-Out: Von Dach et al 2020	1.36 [0.77–2.41]	0%	Non-significant difference
Leave-One-Out: McAteer et al 2023	1.52 [0.26–8.97]	0%	Wide CI, non-significant
RCT Only (Von Dach et al 2020)	1.52 [0.26–8.97]	—	Wide CI, non-significant
Observational Only (McAteer et al 2023)	1.36 [0.77–2.41]	—	Non-significant difference

90-Day Mortality – Sensitivity Analysis

Analysis Type	Risk Ratio (95% CI)	Heterogeneity (I ²)	Interpretation
Original Analysis	0.90 [0.77–1.06]	0%	Non-significant difference
Leave-One-Out: Von Dach et al 2020	0.86 [0.65–1.12]	0%	Non-significant difference
Leave-One-Out: Yahav et al 2022	0.86 [0.65–1.12]	0%	Non-significant difference

Leave-One-Out: BALANCE Investigators 2024	1.02 [0.80–1.30]	0%	Non-significant difference
Leave-One-Out: Tingsgård et al 2024	0.95 [0.79–1.14]	0%	Non-significant difference
RCTs Only (Von Dach, Yahav, BALANCE)	0.95 [0.79–1.14]	0%	Non-significant difference
Observational Only (Tingsgård et al 2024)	0.78 [0.56–1.07]	—	Non-significant difference

90-Day Recurrence – Sensitivity Analysis

Analysis Type	Risk Ratio (95% CI)	Heterogeneity (I ²)	Interpretation
Original Analysis	0.68 [0.45–1.01]	0%	Trend toward reduction
Leave-One-Out: Von Dach et al 2020	0.72 [0.47–1.10]	0%	Trend, not significant
Leave-One-Out: Yahav et al 2022	0.58 [0.32–1.06]	0%	Trend, not significant
Leave-One-Out: Tingsgård et al 2024	0.89 [0.35–2.25]	0%	Non-significant
RCTs Only (Von Dach + Yahav)	0.89 [0.35–2.25]	0%	Non-significant
Observational Only (Tingsgård et al 2024)	0.64 [0.41–0.99]	0%	Significant reduction
No UTI Subgroup Studies	0.63 [0.40–0.98]	0%	Significant reduction