Supplementary information

The Efficacy of Prophylactic Antibiotics on Post-Stroke Infections: An Updated Systematic Review and Meta-Analysis

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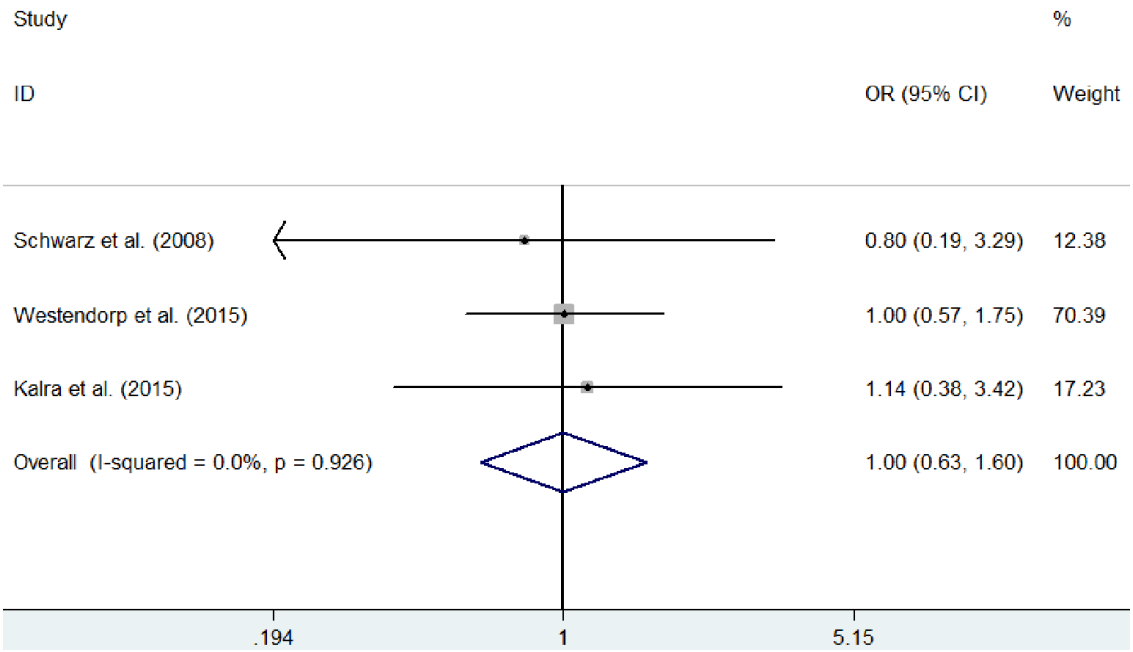
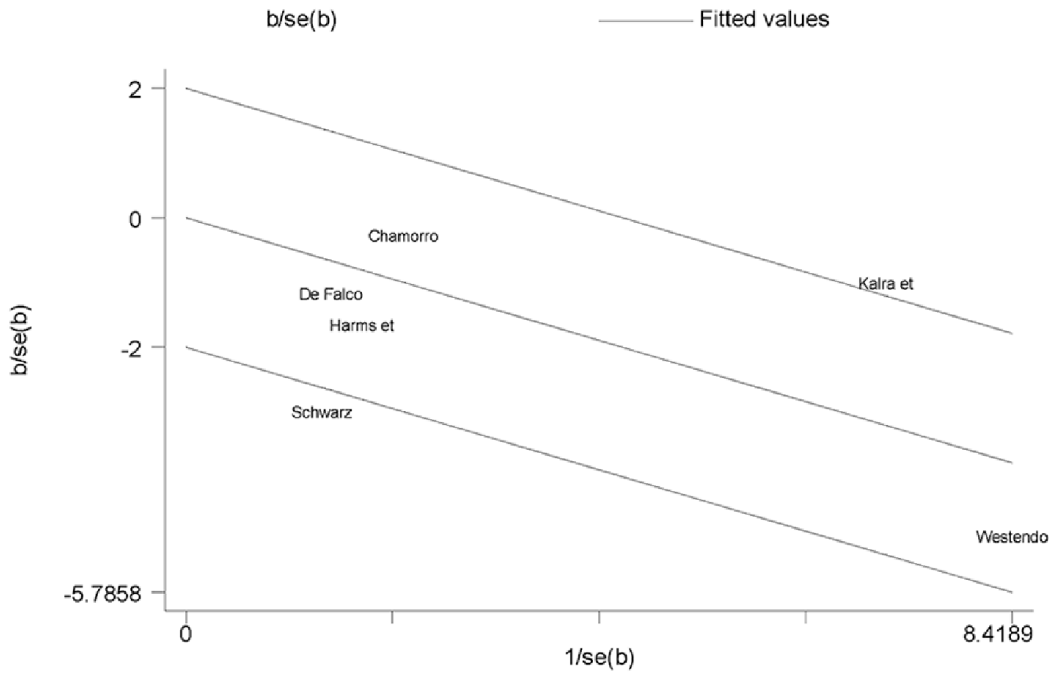
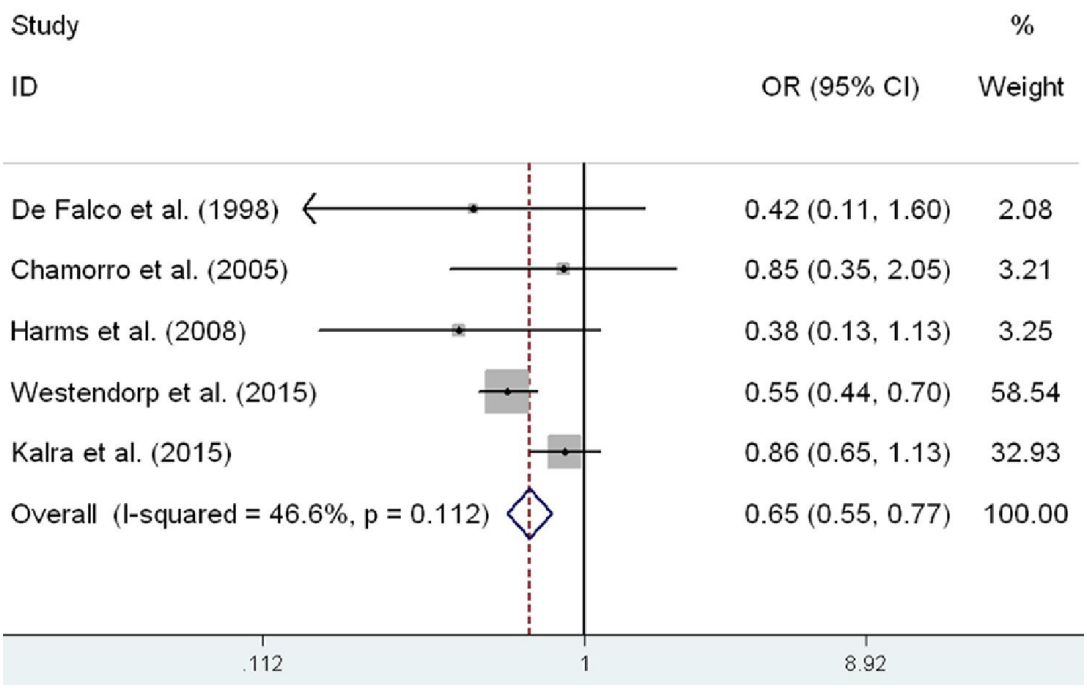
Supplemental Figures and Figure Legends:



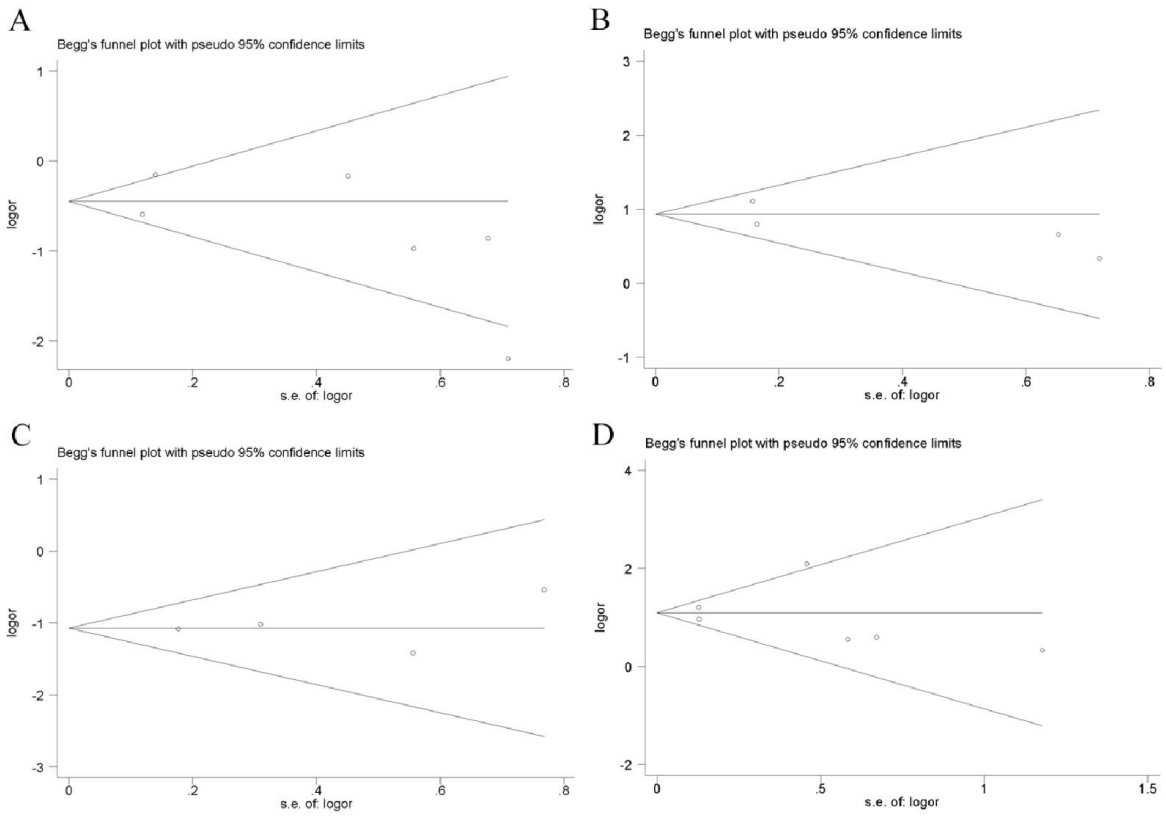
Supplementary Figure S1. Forest plots of other infections with prophylactic antibiotics treatment at stroke onset in observational studies. OR, odds ratio; CI, confidence interval.



Supplementary Figure S2. Galbraith plot of prophylactic antibiotics treatment at stroke onset and the occurrence rate ofinfections.



Supplementary Figure S3. Forest plot of prophylactic antibiotics treatment at stroke onset and the occurrence rate of infections after removing one study. OR, odds ratio; CI, confidence interval.



Supplementary Figure S4. Funnel plots of studies examining the association between prophylactic antibiotics treatment at stroke onset and the occurrence rate of infections **(A),** pneumonia **(B),** urinary tract infections **(C)** and mortality **(D).**

Supplementary Table S1. The risk of bias assessment of included studies

Author (publication year)	Bias	Authors' judgement	Support for judgement
De Falco et al. (1998)	Random sequence generation (selection bias)	Low risk	This study is conducted randomly
	Allocation concealment (selection bias)	Unclear risk	This study not mention allocation concealment
	Blinding (performance bias and detection bias) All outcomes	High risk	Blinding of outcome assessment is not described
	Incomplete outcome data (attrition bias) All outcomes	High risk	No reports about completeness of follow-up and outcome assessment
	Selective reporting (reporting bias)	High risk	Outcome assessment did not perform at a fixed time point
	Other bias	Low risk	No found

Chamorro et al. (2005)	Random sequence generation (selection bias)	Low risk	This study is conducted randomly
	Allocation concealment (selection bias)	Low risk	Study treatment was prepared at the central pharmacy of the institution and kept within its premises until allocation
	Blinding (performance bias and detection bias) All outcomes	Low risk	This is a double-blind and placebo controlled study. All outcomes were evaluated blindly
	Incomplete outcome data (attrition bias) All outcomes	Low risk	There were no losses to follow-up
	Selective reporting (reporting bias)	Low risk	All outcomes are reported
	Other bias	Low risk	No found

Lampl et al. (2007)	Random sequence generation (selection bias)	Low risk	This study is conducted randomly by using the 8th number of the subject's identity card
	Allocation concealment (selection bias)	High risk	Physicians were aware of the treatment because they knew that patients with even/odd NID numbers would get a certain treatment
	Blinding (performance bias and detection bias) All outcomes	Low risk	Outcomes were assessed blindly
	Incomplete outcome data (attrition bias) All outcomes	High risk	Some outcomes (Scores on NIHSS, BI and mRS) are presented as means. The number of patients lost to follow-up is not mentioned.
	Selective reporting (reporting bias)	Low risk	All outcomes are reported
	Other bias	Low risk	No found

Harms et al. (2008)	Random sequence generation (selection bias)	Low risk	A computer generated allocation schedule was used
	Allocation concealment (selection bias)	Low risk	The necessary labelling, ensuring the blinding for patients, nursing personnel and investigating physicians shall be undertaken by the institute
	Blinding (performance bias and detection bias) All outcomes	Low risk	This is a double-blind and placebo controlled study. All outcomes were evaluated blindly
	Incomplete outcome data (attrition bias) All outcomes	High risk	There were 7 patients lost to follow-up
	Selective reporting (reporting bias)	Low risk	All outcomes are reported
	Other bias	Low risk	No found

Schwarz et al. (2008)	Random sequence generation (selection bias)	Low risk	A computer generated allocation schedule was used
	Allocation concealment (selection bias)	Low risk	Each number was hidden in a sealed envelope
	Blinding (performance bias and detection bias) All outcomes	High risk	The assessment of the score of NIHSS and mRS did not conduct blindly
	Incomplete outcome data (attrition bias) All outcomes	Low risk	There were no losses to follow-up
	Selective reporting (reporting bias)	Low risk	All outcomes are reported
	Other bias	Low risk	No found

Westendorp et al. (2015)	Random sequence generation (selection bias)	Low risk	Randomisation was done with an online tool
	Allocation concealment (selection bias)	High risk	The patient and the treating physician were aware of the treatment assignment
	Blinding (performance bias and detection bias) All outcomes	Low risk	The research nurses who did the follow-up interviews were masked to treatment allocation
	Incomplete outcome data (attrition bias) All outcomes	High risk	There were 24 patients lost to follow-up
	Selective reporting (reporting bias)	Low risk	All outcomes are reported
	Other bias	Low risk	No found

Kalra et al. (2015)	Random sequence generation (selection bias)	Low risk	Randomisation was computer generated and done away from the trial office
	Allocation concealment (selection bias)	Low risk	Randomisation was computer generated and admitted directly to specialist care
	Blinding (performance bias and detection bias) All outcomes	Low risk	Patients, research staff obtaining data, and statisticians undertaking analyses of the outcome data were unaware of stroke unit allocation.
	Incomplete outcome data (attrition bias) All outcomes	High risk	34 patients lost to follow-up
	Selective reporting (reporting bias)	Low risk	All outcomes are reported
	Other bias	Low risk	No found

Supplementary Table S2. The data about other infections of the included studies.

Author (publication year)	Other Infections Type	Other Infections Treatment vs Control
Schwarz et al. (2008)	Tracheobronchitis	2/30 vs 3/30
	Other/unclear origin	2/30 vs 2/30
Westendorp et al. (2015)	Other infections (unclear)	25/1268 vs 25/1270
Kalra et al. (2015)	Other infections (unclear)	7/615 vs 6/602

Supplementary Table S3. Definitions Used for Infection

Author (publication year)	Source of infection definition
De Falco et al. (1998)	NA
Chamorro et al. (2005)	Infection was defined if temperature>37.5°C in 2 determinations or>37.8°C in a single determination in patients with suggestive symptoms (ie, cough, dyspnea, pleuritic pain, urinary tract symptoms), white blood cell count >11 000/mL or>4000/mL, pulmonary infiltrate on chest x-rays, or cultures positive for a pathogen. Otherwise, temperature>37.8°C was classified as noninfectious hyperthermia.
Lampl et al. (2007)	NA
Harms et al. (2008)	Criteria modified from US Centers for Disease Control and Prevention criteria
Schwarz et al. (2008)	Criteria from Paul Ehrlich Society for chemotherapy
Westendorp et al. (2015)	First, clinical diagnosis according to the treating physician will be recorded. Second, diagnosis of infection the modified criteria of the United States Centres for Disease Control and Prevention
Kalra et al. (2015)	Criteria for pneumonia from the Centres for Disease Control and Prevention

NA, not available.