

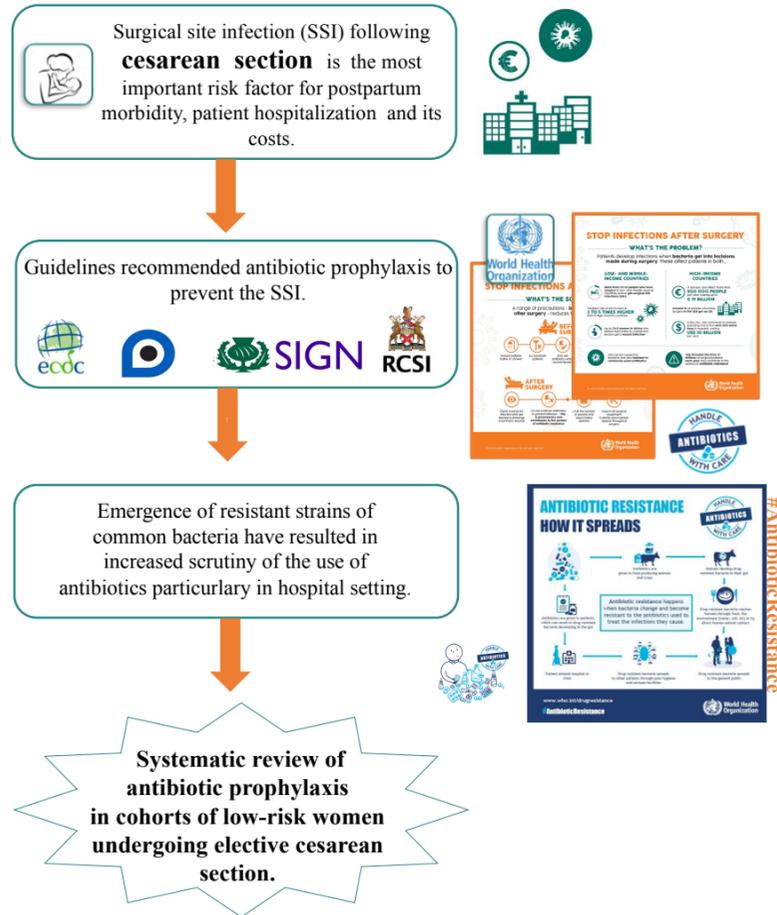
# ANTIBIOTIC PROPHYLAXIS FOR PREVENTING SURGICAL WOUND INFECTION AFTER ELECTIVE CAESAREAN SECTION: META-ANALYSIS OF CLINICAL TRIALS

4CPS-061

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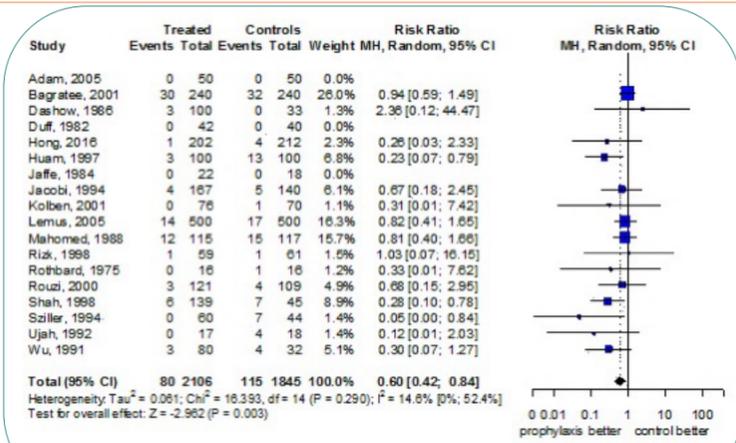
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## <Background and Purpose>

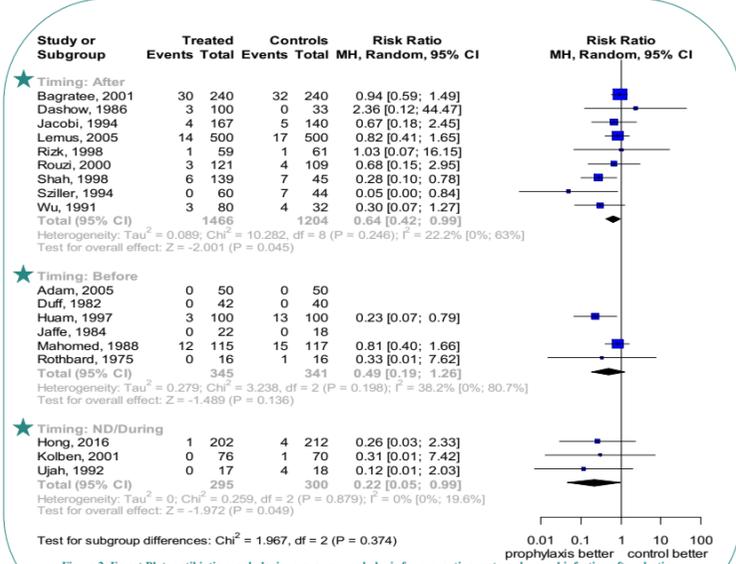


## <Results>

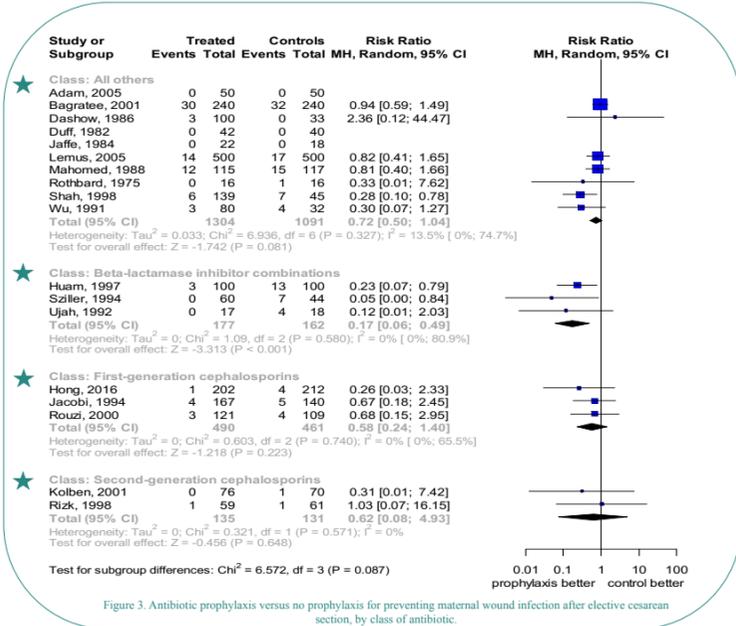
The estimated **total effect** of the intervention, expressed as RR of ISS, was significant [RR 0.60; IC95% 0,42-0,84; p=0.003]. There was no substantial heterogeneity amongst the studies (I<sup>2</sup>: 14.6%).



Subgroup analysis of ISS by **timing of administration**: before cordon clamping (RR 0,49; IC95% 0.19-1.26; p=0,136); after cordon clamping (RR 0.64; IC95% 0.42- 0.99; p=0.045); not defined time (RR 0.22; IC95% 0.05-0.99; p=0.049).



The effect of different **classes of antibiotic** could not be properly estimated, although the meta-analysis with beta-lactamase inhibitor combinations yielded a statistically significant effect (RR 0.17; IC95% 0.06-0.49; p<0.001).



## <Material and Methods>

A SYSTEMATIC REVIEW of the literature was performed by searching in electronic database (PubMed, Embase, Medline, Clinicaltrials.gov, etc).

- Inclusion Criteria**
  - Randomized controlled trials (RCTs) of antibiotic prophylaxis in elective cesarean section compared to placebo/no treatment
  - Subgroup analysis:
    - time of administration
    - class of antibiotic
- Evaluation**
  - Statistical calculations were performed using Software R.
  - The effect estimate was reported in risk ratiion (RR) and pooled using a random-effects model and Mantel-Haenszel method.

## < Results>

**18 studies included.**  
**4549 woman total: 2106 treated and 1845 controls**

Author	Setting	N.	Classes of ATB	ATB	Timing
Adam 1	New Halfa Teaching Hospital, Eastern Sudan	100	3 <sup>rd</sup> generation cephalosporin	Ceftriaxone	Before
Bagratee	Durban, South Africa	475	2 <sup>nd</sup> generation cephalosporin	Cefoxitin	After
Dashow	Washington DC, USA	360	1 <sup>st</sup> and 2 <sup>nd</sup> generation cephalosporin, monobactam, Aminopenicillins	Cephalosporin, Ampicillin	After
Duffe	Washington DC, USA	57	Aminopenicillins	Ampicillin	Before
Hong	The second Hospital of Shandong University, Shandong	414	1 <sup>st</sup> generation cephalosporin	Cefazolin	Not definition/ During
Huam	University Hospital, Kuala Lumpur, Malaysia	200	Beta-lactamase inhibitor combination	Amoxicillina/ Ac. Clavulanico	Before
Jaffe	General hospital, Kfar Sava, Israel	113	Extended spectrum penicillins	Mezlocillin	Before
Jakobi	Haifa, Israel	307	1 <sup>st</sup> generation cephalosporin	Cefazolin	After
Kolben	Munich, Germany	146	2 <sup>nd</sup> generation cephalosporin	Cefotian	Not definition/ During
Lemus	La Raza, Mexico	100	3 <sup>rd</sup> generation cephalosporin	Cefotaxime	Not definition/ During
Mahomed	University of Zimbabwe	232	Other antibiotic combination	Penicillina/ cloramphenicol	Before
Rizk	United Arab Emirates	120	2 <sup>nd</sup> generation cephalosporin	Cefuroxim	After
Rothbard	New York Medical College, NY, USA	100	Aminoglycoside-containing combination	Cephalotin and Kanamycin	Before
Rouzi	Jeddah, Saudi Arabia	441	1 <sup>st</sup> generation cephalosporin	Cefazolin	After
Shah	United Arab Emirates	198	Extended spectrum penicillins	piperacillin/cephalosporin + nitroimidazole	After
Sziller	Budapest, Hungary	104	Beta-lactamase inhibitor combination	Ampicillin/Sulbactam	After
Ujah	Jos University Teaching Hospital, Jos, Nigeria	35	Beta-lactamase inhibitor combination	Amoxicillin/ac. Clavulanico	Not definition/ During
Wu	Beijing, China	112	Aminopenicillins	Ampicillin, Penicillin + aminogluoside	After

Table 1. Characteristic of included studies

## <Conclusions>

This systematic review and meta-analysis supports the guidelines recommendation: antibiotic prophylaxis should be regularly administered to all women undergoing elective cesarean section to prevent ISS. Similar estimates of effect were observed regarding the timing of administration, but there was insufficient data to compare antibiotic classes.