

## **Antibiotic policies for short-term catheter bladder drainage in adults**

The following questions were answered by a systematic review of the literature:

- 1) Is giving antibiotic prophylaxis superior to giving antibiotics when clinically indicated in the prevention of urinary tract infections?
- 2) Is giving antibiotic prophylaxis superior to giving antibiotics when microbiologically indicated in the prevention of urinary tract infections?
- 3) Is giving antibiotics if microbiologically indicated superior to treating with antibiotics if clinically indicated.

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### **Abstract**

#### **Background**

Urinary tract infections account for about 40% of hospital-acquired (nosocomial) infections, and about 80% of urinary tract infections acquired in hospital are associated with urinary catheters.

#### **Objectives**

To determine if certain antibiotic policies are better than others in terms of prevention of urinary tract infections, complications, quality of life and cost-effectiveness in short-term catheterised adults.

#### **Search strategy**

We searched the Cochrane Incontinence Group Specialised Register (searched 20 December 2004). Additionally, we examined all reference lists of identified trials.

#### **Selection criteria**

All randomised and quasi-randomised trials comparing antibiotic policies for short-term (up to and including 14 days) catheterization in adults.

#### **Data collection & analysis**

Data were extracted by both reviewers independently and compared. Disagreements were resolved by discussion. Data were processed as described in the Cochrane Handbook. If data had not been fully reported, clarification was sought directly from the authors of the trial.

#### **Main results**

Six parallel-group randomised controlled trials met the inclusion criteria.

In one trial comparing antibiotic prophylaxis with giving antibiotics when clinically indicated amongst female surgical patients who had a urethral

catheter for more than 24 hours, symptomatic urinary tract infection was less common in the prophylaxis group (RR 0.20, 95% CI 0.06 to 0.66).

Five trials compared antibiotic prophylaxis with giving antibiotics when microbiologically indicated, bacteriuria, pyuria and gram-negative isolates in patients' urine were less common in the prophylaxis group amongst surgical patients with bladder drainage for at least 24 hours postoperatively. Bacteriuria rates were also about five-fold lower in the prophylaxis group in trials involving urological surgery patients and non-surgical patients.

No trial compared giving antibiotics when microbiologically indicated with giving antibiotics when clinically indicated.

#### Reviewers' conclusions

There was weak evidence that antibiotic prophylaxis compared to giving antibiotics when clinically indicated reduced the rate of symptomatic urinary tract infection in female patients with abdominal surgery and a urethral catheter for 24 hours.

The limited evidence indicated that receiving antibiotics during the first three postoperative days or from postoperative day two until catheter removal reduced the rate of bacteriuria and other signs of infection such as pyuria and gram-negative isolates in patients urine in surgical patients with bladder drainage for at least 24 hours postoperatively. There was also limited evidence that prophylactic antibiotics reduced bacteriuria in non-surgical patients.