Pivampicillin in treating genital infection with
Chlamydia trachomatis

BIRGER R MÖLLER,* MARIE CRAMERS,† AND ELLIS FROM‡
From the *Department of Obstetrics and Gynaecology, and the †Department of Dermatology and
Venereology, University Hospital, Aarhus, Denmark

SUMMARY  Pivampicillin was used to treat urogenital colonisation with Chlamydia trachomatis
in 41 women and 24 men who yielded chlamydiae but not gonococci. They were treated for 10
days. All but one patient gave negative chlamydia cultures 10 days after the start of treatment, and
all 65 patients gave negative results at the second examination seven days later. Ten days of treat-
ment with pivampicillin seems to be the optimum to eradicate C trachomatis from the lower
genital tract in man.

Introduction

Erythromycin and tetracyclines have long been used
to treat genital infection with Chlamydia trachomatis,
and are generally accepted as first choice drugs. The
in vitro activity of pivampicillin against chlamydiae
indicates possible efficacy in treating chlamydial
infection in man, although some publications have
reported clinical failure of pivampicillin to treat such
infection.1 2 In the report published here we describe
the eradication of C trachomatis from the genital
tract of men and women with pivampicillin.

Patients, materials and methods

PATIENTS
We studied men and women attending the Depart-
ment of Dermatology and Venereology of this
hospital from February 1983 to August 1984, who
yielded cultures of C trachomatis from the urethra or
cervix, or both, but were culture negative for
Neisseria gonorrhoeae. Patients who had taken anti-
microbial agents in the preceding month and those
who were allergic to penicillins were excluded.

STUDY DESIGN
At the first visit the urethral exudates from men and
the urethral and cervical exudates from women were
examined by methylene blue stain and cultured for N
gonorrhoeae. Samples were also taken from the same

sites using an ear, nose, and throat (ENT) swab
(Medical Wire and Equipment Co, Corsham,
Wiltshire, England) and cultured for C trachomatis.
At the second visit, five to seven days later, treat-
ment with oral pivampicillin was begun in chlamydia
positive, gonococcal negative patients. The antibiotic
was given for 10 days in all cases, in the following
doses: 1 g three times daily (29 patients); 700 mg
twice daily (18); 1 g twice daily (two); 700 mg
twice daily (one); 500 mg three times daily (15).
Follow up visits, when urethral and cervical
specimens were cultured for C trachomatis, were on
days 10 and 17 after the start of treatment.
The patients were asked to abstain from sexual
intercourse during treatment and in the follow up
period. Their sexual partners were examined as
described above and, if chlamydia culture positive,
treated simultaneously.

LABORATORY PROCEDURES
Cultures for C trachomatis and N gonorrhoeae were
performed as described previously.3

Results

We studied 41 women and 24 men. All but one
patient were chlamydia culture negative at the first
follow up, and all 65 patients were negative at the
second examination seven days later.

Side effects were recorded in six patients; four
(10%) of the 41 women developed vaginitis caused by
Candida albicans, whereas two (3-1%) of the 65
patients experienced maculopapular eruptions of the
skin.
Pivampicillin in treating genital infection with Chlamydia trachomatis

Discussion

Susceptibility of C trachomatis to different antibiotics in vitro has been examined by Johannisson et al. They measured minimum inhibitory concentrations (MICs) of antibiotics for a cell culture adopted strain, and found that the most effective were: erythromycin (MIC 0.5 mg/l), pivampicillin (MIC 0.25 mg/l), oxytetracycline (MIC 0.1 mg/l), and doxycycline (MIC 0.05 mg/l). Thus the in vitro activity of pivampicillin against C trachomatis indicates that it is as effective as first choice drugs (erythromycin and tetracyclines). In the study by Johannisson et al, however, 22 chlamydia positive patients were treated with 0.35 g pivampicillin three times daily for seven days, but five still harboured C trachomatis after treatment. In a Danish study, Hagdrup et al evaluated pivampicillin in treating 14 patients who had chlamydia positive non-gonococcal urethritis. The patients were treated with 500 mg pivampicillin orally three times a day for seven days and followed up on days 10 and 17 after the start of treatment. Only seven of the patients were culture negative at both follow up visits, whereas three were culture negative at the first follow up but positive at the second examination, and four were positive at both follow up visits. Hagdrup et al therefore concluded that pivampicillin was less effective than tetracyclines and erythromycin.

In the above studies patients were treated with pivampicillin for only seven days, which seems to be insufficient. We found that 10 days of treatment with the drug was optimum for eradicating C trachomatis from the lower genital tract of men and women. Studies are in progress to evaluate the optimum doses of pivampicillin and the clinical response of genital infection to this drug.

References