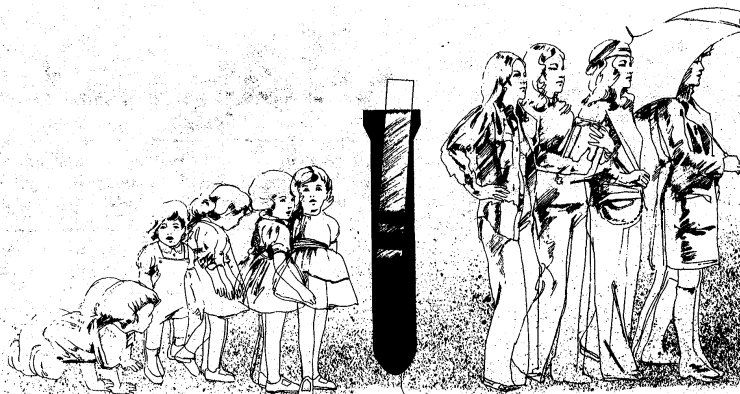




Bacteriuria in Females Detection, Prevalence, Implications

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Bacteriuria is one of the most common bacterial infections to affect females.¹ Because of its cyclic pattern, the number of females who develop bacteriuria at some stage of life is at least three times greater than the total who are bacteriuric at any one time.² On this basis, it is estimated that 15-20% of females in the economically developed countries may be affected at some stage of life.¹

Prevalence

The prevalence of bacteriuria varies according to age, social background and ethnic group, as well as the clinical situation.² Screening surveys for bacteriuria among preschool children have shown that 1-2% of girls tested had infected urine, whereas this finding is rare among boys.³⁻⁵ The incidence of bacteriuria decreases somewhat in girls at the secondary-school level.^{6,7} An increased incidence is again observed during pregnancy, when 3-8% of pregnant women may be expected to develop significant urinary infections. The incidence of bacteriuria is also higher among hospital inpatients and outpatients than in the general population. Indwelling urethral catheters are clearly implicated,⁸ with females having a higher rate of catheter-associated bacteriuria than males.⁹

Bacteriuria Defined

Urine, which is normally sterile, provides an excellent culture medium for many microorganisms. The clinical problem of differentiating a urine culture that is positive due to simple bacterial contamination

from one that is referable to significant bacteriuria and clinical illness was resolved by Kass.¹⁰⁻¹² In pioneering studies, Kass found that patients with bacterial counts greater than 100,000 colonies per milliliter of urine usually had similar bacterial counts in subsequent specimens, and that the organisms present were known urinary pathogens. Low bacterial counts usually involved urethral commensals or mixed gram-negative and gram-positive organisms, suggesting that contamination had occurred. On re-examination, the urine usually proved negative for bacteria. The term *significant bacteriuria* therefore means that bacteria are actively multiplying in bladder urine, and that "true" infection exists when the bacterial count reaches 100,000 or more colonies per milliliter of urine. This value may be expressed as 10^5 .

Asymptomatic bacteriuria. Covert or "asymptomatic" bacteriuria—which is extremely common—refers to significant bacteriuria in the *absence* of any subjective urinary symptoms. Only two fifths of the bacteriuric schoolgirls who were recently surveyed had subjective symptoms.³ In contrast, Mond et al¹³ found that 50% of the female patients seen in general practice for urinary complaints had bacteriuria. Obviously, the presence or absence of dysuria, urinary frequency, or nocturia—symptoms typical of urinary tract infection—can be misleading. One can only rely upon the accurate bacteriologic examination of the urine for accurate diagnostic information.

CLINICAL SIGNIFICANCE OF BACTERIURIA

Pyelonephritis and renal failure. A major concern about bacteriuria is its potential role in the develop-

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