Screening brief

Screening to prevent pelvic inflammatory disease from *Chlamydia trachomatis* genital infection

Burden of disease

- In Britain the prevalence of genital chlamydial infection is about 5% among sexually active young women under 25[1]
- Infection often causes no symptoms or mild, non-specific symptoms only; an estimated 50% of infected men and 70% of infected women are unaware that they have an infection
- The sequelae of untreated genital chlamydial infection in women are pelvic inflammatory disease (PID) and its complications, including chronic pelvic pain, ectopic pregnancy, tubal infertility or, after successful childbirth, infection in the neonate (ophthalmia neonatorum and pneumonitis). Treating these complications costs an estimated £200 million a year in the UK[1]
- The estimated point prevalence of diagnosed PID in England and Wales is 1.7%.[2] Up to 40% of cases of PID are caused by genital chlamydial infection. The annual incidence of PID in women with untreated *C trachomatis* infection is 15–25%.[1] Approximately one in five women with infertility will have had a previous diagnosis of *C trachomatis*. It has been estimated that the incidence of ectopic pregnancies in England is 1 per 100 conceptions and that 43% of these are attributable to genital chlamydial infection[3]

Screening tests[4]

- Nucleic acid amplification tests (polymerase chain reaction and ligase chain reaction) are most suitable. They use non-invasive samples (urine), and achieve a high detection rate (90–95%) and low false positive rate (below 1%). Positive tests using these methods are judged not to need confirmation. New nucleic acid amplification tests under investigation may prove to be more suitable for mass testing (cheaper, more automated, urine samples need not be refrigerated)

Treatment of uncomplicated genital chlamydial infection

- Doxycycline 100 mg twice daily for 7 days or azithromycin 1 g as a single dose; the eradication rate is about 95%
- Prompt treatment of chlamydial infection, including treatment within 2 days of onset of pelvic inflammatory disease, significantly reduces the risk of infertility or ectopic pregnancy.[5] Also, treatment will reduce the pool of infections in the population, leading to reduced transmission

Screening performance

- In a randomised trial, the incidence of PID at 1 year in women offered testing for chlamydial infection (64% uptake) was 56% lower (95% confidence interval 10% to 80%) than in controls receiving usual care[6]
- The most appropriate screening interval is unknown but is being investigated
- Screening women only and identifying and treating infected men through partner notification is more cost effective than screening both sexes[1]

Overall assessment

- Screening for genital chlamydial infection should be offered to women aged under 25. Screening is cost beneficial when the population prevalence is about 5% or higher.[7 8] This is the case among women aged under 25 in Britain, but not among older women.
- The most effective means of inviting women is uncertain. A call and recall programme, effective in screening for breast and cervical cancer, has not been tested in this setting. Opportunistic testing of women attending general practitioners, after asking whether women were sexually active, had high (96%) uptake in Amsterdam,[9] but was ineffective and wasteful with cervical cancer screening. A one year pilot study of opportunistic testing of 16–24 year old women is underway in England. Combination with the cervical screening programme may be worthwhile in women over 20 but the highest age-specific prevalence of infection is seen among teenagers, who are below the age at which cervical screening is offered.

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