Management of minor cervical cytological abnormalities: a systematic review and a meta-analysis of the literature


CRD summary
This review concluded that surveillance for minor cervical cytological abnormalities was associated with poorer compliance with follow-up over time compared with immediate colposcopy, and that these women may also show higher grade abnormalities. However, given that some findings were not supported by statistically significant data, these conclusions could be misleading and may not be reliable.

Authors’ objectives
To compare observation with colposcopy of minor cervical cytological abnormalities in the management of women with minor cervical cytological abnormalities.

Searching
MEDLINE, EMBASE, Cancerlit, CINAHL, Cochrane Database of Systematic Review, Cochrane Central Register of Controlled Trials and the National Research Register were searched up until October 2006. Search terms were reported. The reference lists of relevant articles were scanned and appropriate journals handsearched for additional studies.

Study selection
Randomised controlled trials (RCTs) comparing surveillance with immediate colposcopy for the management of women with minor cervical abnormalities were eligible for inclusion. Eligible trials had to report histological data. RCTs reporting data from mixed populations of patients with different and more severe grades of lesions were excluded from the review.

Included trials assessed surveillance at six, 12 and/or 24 months compared with immediate colposcopy. Included participants had borderline, mild or moderate dyscaryotic smears, with one study including only women with recurrent findings. Histology data from biopsies was examined every six months up until the end of the reported surveillance period. Cytology clinic attendance default rates were also reported.

Each study was independently assessed for inclusion by two reviewers.

Assessment of study quality
The authors did not report using a formal assessment of trial quality, but they did report on aspects of trial quality, including the method of randomisation, blinding, concealed allocation, and the use of a power calculation.

Data extraction
Relative risks (RRs) with 95% confidence intervals (CIs) were calculated for dichotomous outcomes.

More than one author extracted the study data and disagreements were resolved through consensus or through the involvement of an independent reviewer. Study authors were contacted where necessary for additional or missing data.

Methods of synthesis
Where data were available, pooled relative risks with 95% confidence intervals were calculated using a random-effects model. Heterogeneity was assessed using the Q Cochran test.

Results of the review
Thee RCTs were included in the review (n=2,049 participants). None of the trials blinded the investigators to participant allocation. The third trial did not clearly report the methods used, but used serial allocation methods.
Compliance with cytological surveillance was reported to decline over time, but was only significantly associated with poorer compliance rates at 24 months surveillance, in comparison with immediate colposcopy (RR 74.10, 95% CI: 10.36 to 529.79; two RCTs).

A significantly greater number of women had human papillomavirus (HPV) infections/koilocytic atypia (RR 1.49; 95% CI: 1.17 to 1.90; two RCTs) and cervical intraepithelial neoplasia 1 (RR 2.58; 95% CI: 1.69 to 3.94) when referred to immediate colposcopy as compared to those women who underwent 24 months surveillance. No statistically significant heterogeneity was associated with any of these findings. No statistically significant differences in the incidence of cervical intraepithelial neoplasia 2 or worse were reported between immediate colposcopy and 24 months surveillance (RR 1.72; 95% CI: 0.85 to 3.48; two RCTs). However, significant statistical heterogeneity was reported ($\chi^2=8.44$, $p=0.004$, $I^2=88.2\%$).

**Authors' conclusions**

Surveillance was associated with poorer compliance with follow-up over time and these women might also show higher grade abnormalities, putting them at a greater risk as compared to women undergoing immediate colposcopy.

**CRD commentary**

This review addressed a clear research question with defined inclusion criteria. A number of databases were searched, but no specific attempts were made to locate unpublished studies, which may leave the review subject to publication bias. The authors did not report the use of any restrictions on language, so it was unclear whether language bias was present. Attempts were made to reduce reviewer error and bias when selecting studies and extracting data. Some aspects of study quality were also reported, but the authors did not appear to have carried out a systematic assessment of validity, so the reliability of the data is unclear. Only three trials were included in the review and the authors reported that the trials differed in terms of methodology, outcome measures and the duration of surveillance, which suggested that a meta-analysis may not have been appropriate. Statistical heterogeneity was also evident for one of the outcome measures, although the reliability of the significance tests is uncertain given the limited number of included trials. It would also have been helpful to compare the possible adverse effects of immediate colposcopy and surveillance, particularly in terms of patient stress and anxiety, which may also have impacted on compliance and the success of any suggested practice recommendations. The authors' conclusion that women undergoing surveillance showed higher grade abnormalities also did not appear to be supported by statistically significant data; the two trials included in the analysis showed evidence of significant statistical heterogeneity. Overall, given the limited data included in the review, and the fact that some findings were not supported by statistically significant data, the conclusions could be misleading and may not be reliable.

**Implications of the review for practice and research**

**Practice:** The authors stated that all women should undergo an immediate colposcopy after a single low grade cervical smear.

**Research:** The authors did not state any implications for research.

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Record Status
This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.