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[Intervention Review]

Oestrogen therapy for urinary incontinence in post-menopausal women

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ABSTRACT

Background

It is possible that oestrogen deficiency may be an aetiological factor in the development of urinary incontinence in women.

Objectives

To assess the effects of local and systemic oestrogens used for the treatment of urinary incontinence.

Search methods

We searched the Cochrane Incontinence Group Specialised Register of trials (2 April 2009) and the reference lists of relevant articles.

Selection criteria

Randomised or quasi-randomised controlled trials that included oestrogens in at least one arm, in women with symptomatic or urodynamic diagnoses of stress, urgency or mixed urinary incontinence or other urinary symptoms post-menopause.

Data collection and analysis

Trials were evaluated for methodological quality and appropriateness for inclusion by the review authors. Data were extracted by at least two authors and cross checked. Subgroup analyses were performed grouping participants under local or systemic administration. Where appropriate, meta-analysis was undertaken.

Main results

Thirty- three trials were identified which included 19,313 (1,262 involved in trials of local administration) incontinent women of whom 9417 received oestrogen therapy. Sample sizes ranged from 16 to 16,117. The trials used varying combinations of type of oestrogen, dose, duration of treatment and length of follow up. Outcome data were not reported consistently and were available for only a minority of outcomes.

Systemic administration (of oral oestrogens) resulted in worse incontinence than on placebo (RR 1.32, 95% CI 1.17 to 1.48). This result is heavily weighted by a subgroup of women from the Hendrix trial, which had large numbers of participants and a longer follow up of one year; all the women had had a hysterectomy and the treatment used was conjugated equine oestrogen. The result for women with an intact uterus where oestrogen and progestogen combined were used also showed a statistically significant worsening of incontinence (RR 1.11, 95% CI 1.04 to 1.18).

There was some evidence that oestrogens used locally (for example vaginal creams or tablets) may improve incontinence (RR 0.74, 95% CI 0.64 to 0.86). Overall, there were around one to two fewer voids in 24 hours and nocturnal voids amongst women treated with local oestrogen, and there was less frequency and urgency. No serious adverse events were reported although some women experienced vaginal spotting, breast tenderness or nausea.

Women who were continent and received systemic oestrogen replacement, with or without progestogens, for reasons other than urinary incontinence were more likely to report the development of new urinary incontinence in one large study.

The data were too few to address questions about oestrogens compared with or in combination with other treatments, different types of oestrogen or different modes of delivery.

Authors' conclusions

Local oestrogen treatment for incontinence may improve or cure it, but there was little evidence from the trials on the period after oestrogen treatment had finished and none about long-term effects. However, systemic hormone replacement therapy, using conjugated equine oestrogen, may make incontinence worse. There were too few data to reliably address other aspects of oestrogen therapy, such as oestrogen type and dose, and no direct evidence on route of administration. The risk of endometrial and breast cancer after long-term use suggests that oestrogen treatment should be for limited periods, especially in those women with an intact uterus.

PLAIN LANGUAGE SUMMARY

Oestrogens for urinary incontinence in women

Urinary incontinence is the leakage of urine when coughing or exercising (stress urinary incontinence) or after a strong uncontrollable urge to urinate (urgency urinary incontinence). In women who have gone through the menopause, low oestrogen levels may contribute to urinary incontinence. The review found 33 trials including around 19,000 women of whom around 9000 women received oestrogens. The review found that significantly more women who received local (vaginal) oestrogen for incontinence reported that their symptoms improved compared to placebo. Trials investigating oral administration, on the other hand, found that women who received hormone replacement reported that their urinary symptoms got worse. The evidence comes mainly from two very large trials including 17,642 incontinent women. The trials were investigating other effects of hormone replacement therapy as well as incontinence, such as prevention of heart attacks in women with coronary heart disease, bone fractures, breast and colorectal cancer. In addition, in one large trial, women who did not have incontinence at first were more likely to develop incontinence. There was no evidence about whether benefits continue after stopping treatment but this seems unlikely as women would revert to having naturally low oestrogen levels. There may be risks from long-term use of oestrogen such as heart disease, stroke and cancer of the uterus.