Blunt-tipped needles reduced the incidence of glove puncture during abdominal closure


Objective
To determine whether the use of blunt-tipped needles compared with cutting needles to perform abdominal closure reduces the incidence of glove puncture in general surgery.

Setting
Randomised controlled trial.

Patients
83 patients who were having elective colorectal surgery from October 1993 and October 1994. 3 surgeons did the surgery.

Intervention
Patients were allocated to standard mass closure of the abdomen with the surgeon using a number-1 polypropylene suture with either blunt-tipped (n = 46) or cutting needles (n = 39) inside. Immediately before closure, the surgeon put on new gloves. After closure, gloves were examined both by inflating them with air and then immersing them in water and filling them with water. During the second half of the study, gloves were also tested using an electrical detection device that sounded an alarm if the glove was punctured.

Main outcome measure
Glove-puncture rate.

Main results
Fewer glove punctures occurred using blunt-tipped needles compared with cutting needles (6.5% vs 36%, P < 0.001). This absolute risk reduction of 29.5% means that 3 patients would need to have abdominal closure with the surgeon using a blunt-tipped needle (rather than a cutting needle) to prevent 1 additional glove puncture.

Conclusion
The use of blunt-tipped needles compared with cutting needles by surgeons for abdominal closure during surgery reduces the incidence of glove puncture.

Source of funding: No external funding.

Hormone replacement therapy did not reduce the number of episodes of urinary incontinence


Objective
To determine whether hormone replacement therapy (HRT; conjugated equine estrogens, 0.625 mg/d for 30 d/cycle, and medroxyprogesterone, 10 mg for 10 d/cycle), and 44 women were assigned to placebo.

Main outcome measures
The main outcome was the number of incontinent episodes per week. Secondary outcomes were amount of fluid loss measured by a standardised pad test and number of voluntary diurnal and nocturnal micturitions per week. Health-related quality-of-life scores were collected using several instruments, including the Incontinence Impact Questionnaire (2 or 4 per week). The Urogenital Distress Inventory.

Main results
Hormone replacement therapy did not reduce the number of weekly episodes of urinary incontinence or amount of urine loss in postmenopausal women.

Source of funding: National Institutes of Health; Wyeth-Ayerst; Upjohn.

References

Fantl JA, Wyman JF, Anderson KL, Mattiace-Basili Medicine March/April 1997 Therapeutics 55

Commentary
The study by Hartley and colleagues confirms the high rate of glove punctures that occurs during general surgical procedures (1). Relatively few interventions in randomised clinical trials have been shown to reduce the risk for glove punctures, with the exception of the use of blunt-tipped needles and double gloving (2).

Two methodological issues, however, are relevant to the interpretation of this study. First, the authors describe a method of closure during which the needle is guided with the finger of the non-dominant hand. Therefore, the results of this study may not be relevant to surgeons who do not use this method of closure. Second, because the surgeons were (presumably) not blind to whether they were using a cutting needle or a blunt needle, they may have changed their surgical technique. The change in technique rather than the type of needle may have explained the decreased glove-puncture rate in the group of patients allocated to use a blunt needle. Further, the number of needle-stick injuries was not reported.

Comparison
Although the randomisation process was sound, various incontinence conditions were evaluated. The interaction analysis indicated that estrogen diagnostics did not influence the overall results, but this analysis did not have enough power, as the authors note. Because patients with stress, urge, and mixed incontinence were treated, a possible benefit for just 1 subgroup could have been missed. Similarly, a large baseline difference in the initial fluid loss was found between the groups (116 g in the treatment group vs 63 g in the control group). If the volume of urine loss is an index of the severity of incontinence, a difference may have existed at baseline between the groups.

The results of the study challenge our understanding of the effect of HRT on the restoration of urinary continence. The heterogeneity of the study groups and the baseline differences between the groups may not be critical, but we need further studies that are sufficiently powered to evaluate HRT for each diagnosis of incontinence. In addition, the value of local estrogen therapy treatment needs to be addressed before such a simple therapy is abandoned in the treatment of women with postmenopausal urinary incontinence.

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References
Fantl JA, Wyman JF; Anderson KL, Mattiace

Evidence-Based Medicine March/April 1997 Therapeutics 55

Therapeutics

Therapeutics

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