

THE EFFECT OF SPINAL ANAESTHESIA ON URETHRAL FUNCTION

Hypothesis / aims of study

To measure the effect of spinal anaesthesia on urethral function (using urethral retro-resistance pressure, URP), cough pressures and the degree of urinary leakage during coughing. The null hypothesis for this study was that coughing under a spinal anaesthetic is the same as coughing without an anaesthetic, and that spinal anaesthesia does not affect urethral function and the tendency to leak.

Study design, materials and methods

32 women with urodynamic stress incontinence underwent URP and cough pressure measurements prior to and after insertion of a spinal anaesthetic over an 18 month period. The degree of leak was assessed using a 4 point scale before and after a spinal anaesthetic. Significance testing was applied to assess any differences in each parameter before and after introduction of a spinal anaesthetic.

Results

URP values fell by 28% after the spinal ($p=0.0003$). There was no statistically significant fall in the cough pressures ($p=0.06$). The degree of urinary leakage increased after placement of the spinal anaesthetic ($p=0.005$).

Interpretation of results

Under spinal anaesthesia there is a fall in urethral resistance but no significant fall in cough pressures. These changes result in an increase in the tendency to leak.

Concluding message

There may be safety benefits with spinal anaesthesia as compared to general anaesthesia. However there is a poor association between the degree of leakage after a spinal anaesthetic compared to a non-anaesthetised state. The cough test under spinal does not mimic coughing without a spinal.

References

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HUMAN SUBJECTS: This study was approved by the Trust ethics committee and followed the Declaration of Helsinki Informed consent was obtained from the patients.