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1. Urogynae Unit

DOES WEIGHT LOSS IMPROVE URINARY INCONTINENCE?

Hypothesis / aims of study

Obesity is defined as a body mass index (BMI) greater than or equal to 30 Kg/m^2, and is a significant cause of ill health and poor quality of life. It costs approximately 6-8% of the direct health care budgets of developed countries

Its prevalence in women is more than 20%.

The relationship between urinary incontinence and obesity has been recognized in many studies. However, most of these studies are epidemiological and have reported a simple association.

The pathophysiological basis for the association between obesity and urinary incontinence is not clear. Possible mechanisms include high intra-abdominal pressure, bladder neck hypermobility, and neuromuscular dysfunction of the pelvic floor.

While weight loss can be associated with an improvement in urinary incontinence, the evidence is inconclusive. There have been 4 interventional trials but only two[1,2] had urinary incontinence as the primary outcome: both had small sample sizes and no objective assessment of incontinence. The need for an appropriately designed study was recommended by the (Second) International Consultation on Incontinence in Paris, July 2001.[3]

The primary outcome of our study was an improvement in incontinence (on objective tests) following a 10% reduction in weight in women with a body mass index (BMI) between 30 and 39.9Kg/m^2, and secondly, to determine the mechanism(s) by which weight loss might affect urinary incontinence in these patients.

Study design, materials and methods

Prospective cohort observational study.

Inclusion criteria:

Women with urinary incontinence (i.e. stress, urge and mixed) with a BMI of 30-39.9Kg/m^2.

Exclusion criteria:

Previous incontinence surgery, presence of visible symptomatic genital prolapse, and patients on drug treatment for urinary incontinence.

Patient's Assessment

The following investigations were performed at the beginning of the study and repeated when a reduction of 10% of body weight was achieved:

24 hours ICS pad test, three-day voiding diary, quality of life measures (SF36 and King's Health questionnaires), Oxford score and perineometry to assess pelvic floor strength, urodynamic studies, waist circumference measurement, perineal ultrasound, and Bodystat (body composition monitoring).

Weight Reduction

This was achieved using a low calorie diet and exercise programme and in those who failed to lose 10% body weight, an anti-obesity drug (Orlistat) was prescribed.

Results

Seventy patients have been recruited and 18 have withdrawn from the study.

To date, 29 patients have achieved the 10% target weight loss (7 with diet and exercise; 22 with diet, exercise and Orlistat). The final assessment of the remaining patients will take place during May 2004.

The Kings quality of life questionnaire showed significant improvement with weight loss. The stress incontinence question on part III of the Kings was significantly reduced ($p < 0.001$)

Pad test weight was significantly reduced ($p < 0.001$). To confirm weight reduction, the 3 measures of BMI i.e. girth and fat percentage were all significantly reduced. There was no change in pelvic floor strength ($p > 0.05$ – in fact p value was 0.66).

The Oxford scale did show a slight increase; however, these differences were not significant ($p = 0.1$)

Interpretation of results

Weight reduction has significantly improved the amount of urinary incontinence as shown by the improvement in pad test and quality of life.

All 'diagnoses' i.e. Stress, urge and mixed have been investigated, but the numbers are too small to assess if weight loss has a greater effect on stress or urge incontinence. The mechanism of improvement of these patients is still being investigated.

Concluding message

This is the largest trial (so far) that has objectively assessed the effects of weight loss on urinary incontinence. The results are encouraging.

References

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