

## IS RAISED BMI A RISK FOR RECURRENCE OF URINARY STRESS INCONTINENCE FOLLOWING MONARC TRANSOBTURATOR TAPE (TOT)?

### Hypothesis / aims of study

TOT is a well established treatment for stress urinary incontinence with efficacy rates of between 80 – 90% however; there is no long term outcome data in the obese population. Similar cure rates between obese and non obese women undergoing tension free vaginal tape procedures are reported(1,2) although 1 group(3) found a reduction in long term cure rate from 81.2% in normal weight women (BMI 19-24) to 52.1% in very obese woman (BMI >35). This study aims to investigate the success of TOT Monarc in obese and non obese women.

### Study design, materials and methods

All women who underwent a TOT for urodynamic stress incontinence from April 2005-Feb 2008 were analysed. Women were classified as being of normal weight (BMI < 25), overweight (BMI 25- 29), obese (BMI 30-34) or morbidly obese (BMI >= 35). Data on demographics, intra and post-operative complications were collected. All patients completed a pre and post operative ICIQ-UI (SF). Women were seen in clinic at 6-12 weeks post-operatively. Long term outcome results were obtained through telephone interview by an independent researcher. At this interview women were asked about pad use and also completed a 5 point symptom scale: 5" cured", 4"much improved", 3"somewhat improved", 2"unchanged" and 1"worse". The "4" or "5" options were regarded as cure. Short term and long term surgical outcomes were compared according to BMI.

### Results

114 women underwent TOT, BMI is detailed in Table 1. The mean age was 53 (31-84) and parity was 3.1 (0-8). 82/114 (72%) had pure stress urinary incontinence whilst 26/114 (23%) had mixed urinary incontinence on urodynamic studies (UDS). UDS results were not available for 6/114 (5%).

4.3% of patients had previous incontinence surgery; 1 colposuspension, 3 TVT and 1 unknown.. 58% underwent a TOT and 42 % had TOT combined with other pelvic surgery.

BMI range	Number of patients:
>25 normal	36 (31.5%)
25-29 overweight	25 (21.9%)
30-34 obese	25 (21.9%)
>35 morbidly obese	28 (24.6%)

Table1. Number (%) women in BMI groupings total n=114

92% of women attended for short term follow up. 89% were cured as defined by the absence of incontinence on subjective questioning and a negative cough stress test. Failure at 6 weeks follow-up was significantly associated with obesity with an odds ratio of 3.6 (p=0.02) for every 10 unit rise in BMI. There was no association with age, parity, or concurrent surgery.

91% completed long term follow-up at a median of 26 months (9-43) postoperatively. 78.8% had an improvement in ICIQ-UI (SF) score, 5.7% had deterioration and 15.5 % reported no change. There was significantly less improvement between pre and post ICIQ-UI (SF) scores with increasing BMI (p=0.04) and increasing time from index surgery (p=0.02). Pad use decreased from 83% of women preoperatively to 34.4% postoperatively and from a mean of 2.7(1-10) to 1(1-8) respectively. Ongoing pad use was significantly associated with obesity, OR of 2.5 (p=0.007) for every 10 unit rise in BMI. There was no significant difference in intraoperative, short or long term postoperative complications or denovo urgency with increasing BMI.

Increasing BMI was significantly associated with a reduction in patient symptom improvement, p=0.02 (Fig 2.) At long term follow up 78% reported that incontinence symptoms were either "5-cured" or "4-a lot better" with a normal BMI (19-25) compared to 55% with a BMI >35.

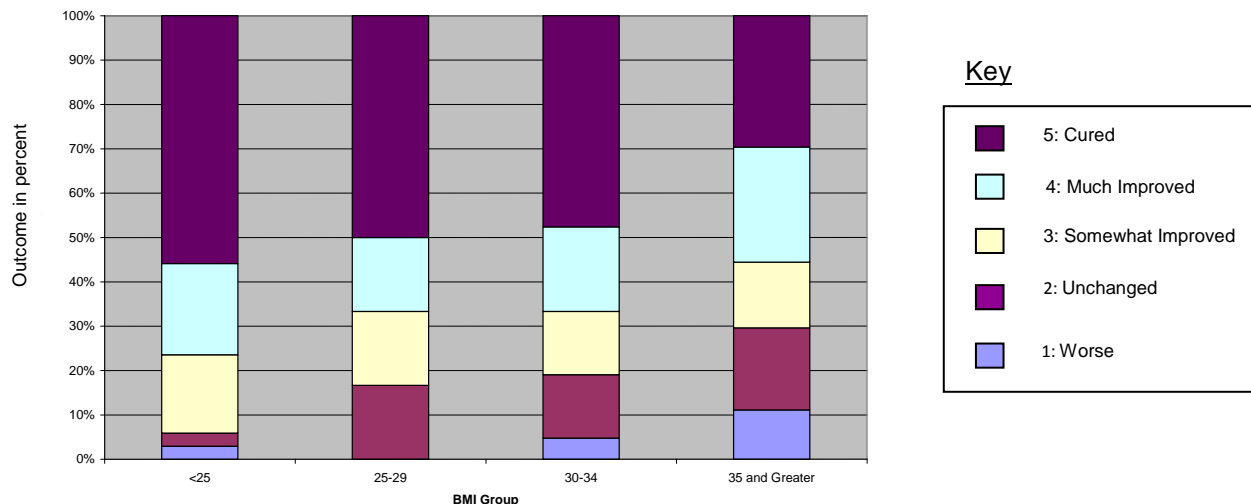


Table2. Patient reported symptom improvement at long term follow up (median 26 months)

### Interpretation of results

This study shows less favourable results with TOT Monarc surgery for stress urinary incontinence in obese and morbidly obese women. There was a decreasing cure rate with increasing BMI and increasing time from index surgery. The TOT Monarc is a safe and simple procedure to perform in women with raised BMI with no increase in intra operative, short or long term complications. The chronically raised intra abdominal pressure associated with obesity may result in a stretching of the Monarc tape; this could be an explanation for the reduction in cure rate over time.

### Concluding message

Raised BMI results in a lower cure rates for women undergoing TOT Monarc for urinary stress incontinence, this effect is progressive with time.

### References

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<b><i>Is this a clinical trial?</i></b>	<b>No</b>
<b><i>What were the subjects in the study?</i></b>	<b>HUMAN</b>
<b><i>Was this study approved by an ethics committee?</i></b>	<b>Yes</b>
<b><i>Specify Name of Ethics Committee</i></b>	<b>Northern Y Ethics Committee New Zealand</b>
<b><i>Was the Declaration of Helsinki followed?</i></b>	<b>Yes</b>
<b><i>Was informed consent obtained from the patients?</i></b>	<b>Yes</b>