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DOES BMI AFFECT THE RESULTS OF CONTINENCE SURGERY? AN ANALYSIS OF THE BRITISH SOCIETY OF UROGYNAECOLOGY (BSUG) DATABASE.

Hypothesis / aims of study
Little data is available on the outcome of retropubic mid urethral slings (RMUS) procedures in obese and overweight women. It is often thought that high BMI may be a contributing factor to intra operative complications and poor surgical outcome for continence surgery.
The aim of this study was to identify the impact of body mass index (BMI) on the efficacy of RMUS for stress urinary incontinence and to see if there were differences in intra-operative and post operative outcome in women with differing BMI.

Study design, materials and methods
The BSUG surgical database asks surgeons to prospectively enter their patients demographics (including BMI) when performing surgery. The data base looks at all forms of both prolapse and continence surgery and has collected over 22,000 surgical episodes to date since 2007.Cases were selected from the BSUG database if they had undergone retropubic MUS, did not have any other concomitant surgery, and were having primary continence procedures. We compared pre- and postoperative evaluations, including subjective and objective outcome, complications, and quality of life assessed by validated Questionnaires.

Results
Up until the end of 2010 there were 3925 cases who also had BMI data entered. BMI had no effect on anaesthetic choice.GA was most commonly used among all groups.
Complications were recorded as per the BSUG database.

Interpretation of results
Bladder perforation rates appear higher among the patients with low/normal BMI (4.4%VS 2%), however blood loss was similar in all groups. There seem to be no trend between BMI and return to theatre within 72 hours, catheterisation beyond 72 hours or return to hospital within 30 days. Outcome data was sporadic. 1529 (38%) of the cases had no follow-up data entered but this was consistent for all categories of BMI.Median follow up was 17 weeks (range 6-52).
Cure/improvement rates for stress incontinence were similar throughout the BMI ranges. Morbidly obese women seemed overall less satisfied with the outcome of their surgery with respect to PGI (69% vs. 86-91%). Interestingly, cure/improvement rates for urgency/urgency incontinence appeared lower (57% vs. 72-88%) in the morbidly obese group. In addition, a significant proportion of morbidly obese women had a worsening of their urgency symptoms post-operatively (20%vs 3-5%). The rate of new de novo urgency symptoms post-operatively did not differ between the groups (3-4%).

Concluding message
Morbid obesity (BMI >40) does not seem to be associated with a poorer outcome for incontinence surgery in UK with respect to SUI symptoms. However, morbidly obese patients seem less satisfied overall with respect to global impression of outcome for incontinence. This may possibly related to the lower impact that surgery appears to have on pre-existing urgency symptoms or indeed a deterioration in such symptoms in this particular group. This may be useful information when counselling our morbidly obese patients prior to undergoing a RMUS procedure for mixed incontinence symptoms.

Table1- Demographics details, Anaesthesia used and complications:

BMI	<20	20-25	25-30	30-35	35-40	>40
Number (n)	67	1051	1487	863	375	147
Mean age	49	52	54	53	52	54
USI only (%) [i.e. not mixed]	78	77	73	72	69	67
Anaesthetic n (%)						
GA	41 (61%)	668 (64%)	979(66%)	567(66%)	238(63%)	90(61%)
Spinal	7 (10.4%)	134(12.7%)	206(14%)	133(15.4)	66(18.4%)	32(22%)
LA with sedation	18 (27%)	230(22%)	282(19%)	151(17.4)	65(17.3%)	21(14%)
Local alone	1 (1.5%)	9(0.85%)	7(0.47%)	5(0.5%)	3(0.8%)	1(0.68%)
Bladder injury	3(4.4%)	47(4.4%)	44 (2.95%)	17(1.96%)	3(0.8%)	3(2.04%)
>500ml blood loss	0	9(0.85%)	6 (0.40%)	5(0.57%)	4(1.06%)	0

Table 2- Outcome reported

BMI	<20	20-25	25-30	30-35	35-40	>40
Change in stress incontinence						
Cured	25(76%)	426(75%)	634(78%)	332(74%)	134(71%)	41(63%)
Improved	5(15%)	121(21%)	158(19%)	94(21%)	45(24%)	16(25%)
No Change	3(9%)	16(3%)	21(2.5%)	19(4.2%)	8(4.2%)	8(0.5%)
Worse		3(0.5%)	4(0.4%)	5(1%)	1(0.5%)	
Change in Urgency/urge incontinence						
Cured/not present						
Improved	23(70%)	306(56%)	448(56%)	221(51%)	86(48%)	24(35%)
No Change	3(9%)	123(22%)	162(20%)	96(22%)	44(24%)	15(22%)
Worse	5(15%)	75(14%)	108(14%)	72(17%)	35(19%)	14(20%)
New Symptom	1(3%)	21(4%)	44(6%)	30(7%)	9(5%)	14(20%)
	1(3%)	25(4%)	31(4%)	15(3%)	7(4%)	2(3%)

Table 3-Outcome reported

BMI	<20	20-25	25-30	30-35	35-40	>40
Global Impression of Improvement in incontinence (PGI-I)						
Very much/much better	28(90.3%)	526(92%)	744(91%)	389(87%)	166(86.4%)	48(69%)
A little better	2(6.4%)	22(4%)	41(5%)	25(6%)	14(7%)	11(16.4%)
No change	0	14(0.2%)	18(2%)	21(5%)	6(3%)	5(7.4%)
A little worse	0	6(1%)	5(0.6%)	7(1.6%)	2(1%)	1(1.5%)
Much worse	0	2(0.3)	7(0.8%)	2(0.4%)	4(2%)	2(3%)
Very much worse	1(3.2%)	4(0.6)	2(0.2)	4(0.9%)	0	0
ICIQ-UI score Pre-op (mean)	11.6	12.01	11.73	12.43	12.53	12.31
ICIQ-UI score Post-op (mean)	2.04	2.36	2.72	2.96	3.37	4.11

References

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Is this a clinical trial?	**No**
What were the subjects in the study?	**HUMAN**
Was this study approved by an ethics committee?	**No**
This study did not require ethics committee approval because	**The BSUG database is an audit tool available to UK consultants undertaking urogynaecological procedures. We have analysed the database concerning operations performed for stress continence**
Was the Declaration of Helsinki followed?	**Yes**
Was informed consent obtained from the patients?	**Yes**