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COMPLICATIONS OF SYNTHETIC SUBURETHRAL SLINGS IN 103 WOMEN LEADING TO REVISION OR REMOVAL.

Hypothesis / aims of study

Synthetic suburethral slings (SSS) are now the most common treatment for female stress urinary incontinence (SUI). The aim of this study was to examine the reasons for division/removal of these slings and the subsequent patient outcomes (for the patients concerned).

Study design, materials and methods

Retrospective chart review of all patients who underwent surgery for division/removal of a synthetic suburethral sling between 2000 and 2010 inclusive.

Results

A total of 103 patients underwent surgery for division/removal of a SSS. Forty eight patients (46.6%) had their initial SSS procedure performed elsewhere. The average length of time between the initial operation to place the SSS and the operation to divide /remove it was 18.6 months, ranging from 10 days to 17 years. The indications for sling division/removal were voiding difficulty 62 (60.2%) and sling extrusion/pain 41 (39.8%). (Table 1)

TABLE 1. INDICATIONS AND NUMBERS OF EACH TYPE OF SYNTHETIC SUBURETHRAL SLING WHICH REQUIRED DIVISION/REMOVAL

SSS TYPE	**VOIDING DIFFICULTY**	**EXTRUSION/PAIN**
ADVANTAGE	2	2
DACRON	1	0
INFAST	1	2
IVS	4	14
MONARC	7	5
PROLENE	2	1
SPARC	0	2
TVT	41	9
TVT-O	3	3
UNIDENTIFIED	1	3
TOTAL	**62**	**41**

Eleven cases of sling infection were documented. All eleven cases had their slings removed for the indication of extrusion/pain. The eleven infected slings comprised IVS (8), Infast (2) and Sparc (1).

Of the 103 women included in this study, 57 patients had their SSS either wholly or partially removed and 46 had their SSS divided. All patients undergoing the procedure for the indication of extrusion/pain had their SSS at least partly removed while those patients undergoing the procedure for the indication of voiding difficulty had either a division or removal. (Table 2)

TABLE 2. NUMBERS OF SYNTHETIC SUBURETHRAL SLINGS DIVIDED OR REMOVED

SSS DIVISION OR REMOVAL	**VOIDING DIFFICULTY**	**EXTRUSION/PAIN**	**TOTAL**
DIVIDED	46	0	**46**
REMOVED	16	41	**57**

Thirteen patients out of 103 underwent a concomitant procedure to prevent recurrent SUI at the time of their SSS division/removal. Of this group, 2 have been lost to follow up and 1 required a further procedure for treatment of recurrent SUI. Ninety patients out of the 103 had no concomitant SUI procedure to prevent recurrence. Of these 90 women, 55 (61%) have no

recurrence of their SUI symptoms on follow up. Of the remainder, 16 (18%) have undergone further treatment for recurrent SUI while 19 women have been lost to follow up.

Interpretation of results

In our unit, voiding difficulty and extrusion/pain were the indications for SSS division/removal. Extrusion can occur many years distant from the initial placement. Certain SSS types such as IVS are more strongly associated with infection. Many patients will not experience recurrence of their SUI after division/removal of their SSS. The TVT, Advantage and Sparc slings are all type 1 monofilament polypropylene slings and were revised almost always for voiding difficulty or mesh extrusion into the vagina or lower urinary tract. In only two cases, one a Sparc and one a TVT was infection a possible contributing factor. The IVS and Infast slings are non type 1 multifilament and infection was the predominant reason for revision/removal. Many of these patients had multiple operations and the infection was not eradicated until every remnant of the SSS had been completely removed.

Concluding message

SSS procedures for stress urinary incontinence can result in complications which may necessitate their division/removal. The type of SSS selected may influence the likelihood of specific complications such as infection. At least 18% of women required further SUI surgery following sling division/removal alone.

Specify source of funding or grant	**None**
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	**It was a retrospective chart review**
Was the Declaration of Helsinki followed?	**Yes**
Was informed consent obtained from the patients?	**No**