

APPRAISAL OF A NEW METHOD FOR THE SUSPENSION OF THE URETHRA ON THE ABDOMINAL WALL

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Several surgical techniques to redress stress urinary incontinence (SUI) have been described over the years. In 1959 Pereyra introduced a new method to suspend the endopelvic fascia on the sheath of rectoabdominal muscles from above by mean of a special needle.

In a previous paper we described an intervention of suspension of the urethra on the abdominal wall which was based on the same principles as Pereyra's method. But this new technique makes possible to cross the retropubic area more easily from below — thus avoiding vesical injuries — leaving a drainage *in situ* to prevent haematomas. Moreover thanks to this different approach the urethro-vesical joint can be prepared more accurately and the endopelvic fascia is fully isolated.

Further experiences and a review of post-surgery results have enabled us to focus on some details and to introduce technical improvements which are reported hereafter.

MATERIAL AND METHODS

This study concerns two groups of patients. Group A includes 25 women treated for SUI with bilateral suspension — vis-à-vis the urethra — of the endopelvic fascia on the rectal muscles by means of a Dexon stitch No. 2. Group B includes 10 patients on whom two Dexon stitches No. 2 were used: a first para-urethral one, like in group A, and a second, behind and more laterally, on the margin between bladder and endopelvic fascia. We used absorbable material exclusively in order to prevent obstructions.

All patients, aged between 32 and 74 had been suffering from SUI for one year at least and were at least primiparae. They were singled out by strict selection whereby their SUI was identified as "pure", that is not associated with detrusor instability. They underwent accurate anamnesis, objective examination, urinoculture, urodynamic tests and chain urethrocystography.

In order to have a complete radiographic assessment of the degree of urethrocystocele and, subsequently, of surgical correction we took into account the posterior urethro-vesical and the urethral inclination angles as well as the distance between vesical floor and pubic symphysis upper margin. Normally, in upright po-

SUMMARY

We have studied results obtained in 35 patients suffering from stress urinary incontinence who underwent suspension of the urethra on the abdominal fascia of rectus muscles. Our surgical technique described in this paper leads to excellent correction of urethro-vesical prolapse and complete regression of symptomatology.

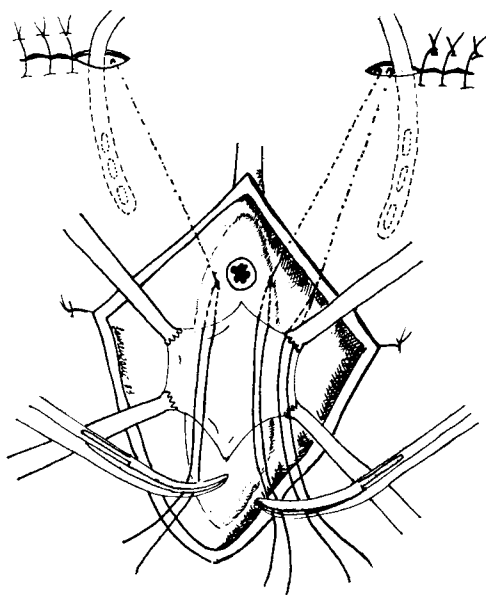


Fig. 1.

sition and under strain, this distance is equal to zero. All interventions were carried out in the Vth Obstetric-Gynecologic Pathology of Rome University.

SURGICAL TECHNIQUE

After performing colpohysterectomy and peritoneal suture we incise the anterior vaginal wall vertically from the external urethral meatus and separate it from the urethral wall and the bladder. We mobilize urethra and vesical neck dividing the endopelvic fascia from the pubic lower margin and pushing the forefinger progressively towards the inner face of the pubic descending branch. Then we push retropubically the point of long, thin, curved, Ochsner-type forceps through the endopelvic fascia. Once we have overcome the resistance of the abdominal rectus muscle we reach the subcutaneous tissue. Then we incise the cutis slightly. The forceps point emerges and one or two stitches, according to the

first or the second method, respectively, are put and tied up on the abdominal fascia. The long ends and a Redon-type drainage are brought down by the point of the forceps which are pulled out so that the thread ends can be used again to fix a stitch in the paraurethral area, through the vagina, and possibly a second stitch in the paravesical area.

We follow the same procedure in the contralateral area and, once the stitches have been tied up, the urethro-vesical joint appears to have resumed its original position (fig. 1).

The drainage, fixed, on the cutaneous abdominal suture and connected to suction system, draws from the retropubic area by its lower edge and it remains *in situ* for a few days.

Subsequently we perform cystopexy and anterior vaginal plastic surgery.

RESULTS

Tables 1 and 2 show the results obtained with the first and second method respectively.

With regard to the suppression of urinary incontinence the two techniques were equally effective. But the comparison of urethrocystographical pre- and post-operative findings shows that in 56% of the patients of the first group correction was satisfactory but not optimal. Before surgery many of these patients presented remarkable vesical prolapse and significant changes in the typical angles.

In group B patients, conversely, we achieved optimal lifting independent of the degree of displacement of the urethro-vesical joint. Post-surgery control showed complete correction of the anatomical defect, with rising of the vesical floor to an almost normal level and satisfactory readjustment of PUV and UI angles. This result was achieved even in a patient whose vesical floor before the operation, was as low as 7.5 cm below the pubic symphysis (fig. 2a-b and fig. 3a-b).

Table 1.

Case	UI		UVP		Distance from PS in cm	
	Pre-op.	Post-op.	Pre-op.	Post-op.	Pre-op.	Post-op.
M. R.	95°	35°	226°	85°	4.5	0.5
L. I.	50°	21°	99°	86°	5	2.5
P. M.	145°	65°	210°	120°	9	3
V. C.	60°	34°	152°	123°	6	1.5
C. W.	83°	33°	157°	122°	5.5	2
P. M.	-29°	-18°	115°	69°	2.5	1
C. C.	25°	0°	132°	92°	2.5	1
I. M.	11°	7°	119°	95°	1.5	1
B. P.	36°	- 9°	160°	95°	2	0
P. R.	0°	-23°	98°	66°	1.5	0.5
A. G. K.	42°	- 9°	103°	81°	4.5	0.5
M. W.	55°	26°	135°	109°	5	3.5
P. G.	15°	-26°	120°	62°	1.5	1
B. M.	60°	30°	135°	93°	1	0
P. V.	85°	40°	160°	98°	5.5	0.5
D. P. A.	40°	5°	150°	86°	2.5	0.5
S. A.	45°	45°	205°	145°	4	0.5
D. A. O.	67°	39°	95°	144°	3	3
V. A.	-25°	- 7°	180°	122°	2.5	0.5
G. P.	15°	9°	110°	90°	2.5	1
V. G.	45°	12°	120°	60°	3	1.5
P. N. A.	80°	42°	160°	100°	4.5	1
N. V.	-15°	5°	102°	85°	2	0.5
B. E.	36°	0°	135°	98°	3	0.5
L. S.	60°	55°	152°	110°	3.5	1.5

UI: urethral inclination angle. PUV: posterior urethro-vesical angle. PS: upper margin of pubic symphysis.

Table 2.

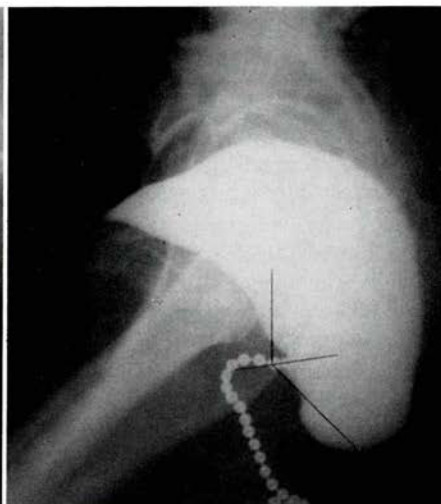
Case	UI		PUV		Distance from PS in cm	
	Pre-op.	Post-op.	Pre-op.	Post-op.	Pre-op.	Post-op.
C. A.	-29°	-12°	106°	74°	1	0
B. A.	27°	- 7°	180°	122°	2.5	0.5
B. A.	0°	-25°	85°	60°	2	0.5
C. A.	36°	0°	151°	130°	4	0.5
G. A.	80°	7°	128°	72°	7.5	0.5
D. G. A.	26°	- 5°	88°	83°	4	0.5
T. A.	55°	26°	125°	95°	1	-0.5
P. R.	80°	40°	135°	98°	3	0.5
A. G.	15°	20°	110°	92°	2.5	0
V. V.	35°	25°	88°	75°	1.5	0.5

UI: urethral inclination angle; PUV: posterior urethro-vesical angle; PS: upper margin of pubic symphysis.

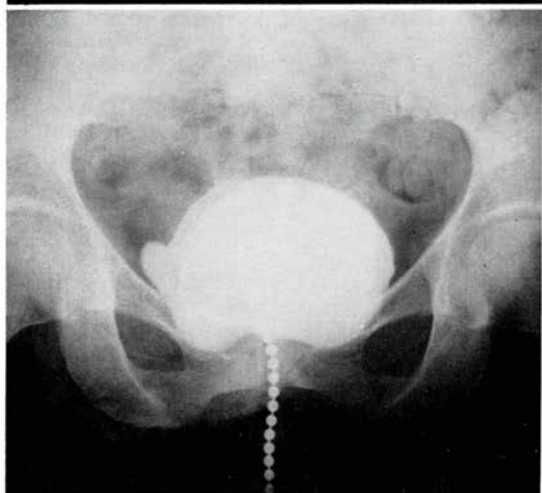
2 a.



2 b.



3 a.



3 b.

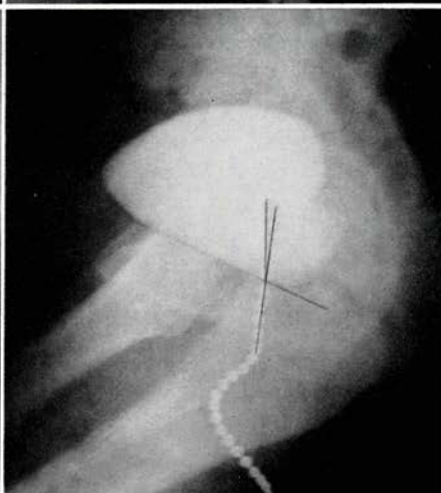


Fig. 2 a, b. — Marked vesical prolapse with vesical floor about 7.5 cm below pubic symphysis upper margin. The lateral projection shows a total overturning of the typical angles.

Fig. 3 a, b. — Post-surgery control shows restoration of the normal vesical topography; PUI and UI angles have resumed normal width.

COMPLICATIONS

Only one out of the 35 patients who underwent suspension of the urethra on the abdominal wall suffered a vesical injury. In this case the intervention was performed by a different surgical team: this incident was due to an incomplete preparation of the retropubic area and a consequent too medial insertion of the

forceps. However, this mishap, forcing us to re-operate the patient enabled us to see an already perfect adherence of the lifted endopelvic fascia on the 4th day.

DISCUSSION

A review of the clinical cases has shown no relation between the number

of vaginal deliveries and the degree of SUI. In all cases suspension was performed on patients who had undergone hysterectomy previously or during this very intervention. Better long-term results are thus achieved because the bladder bears a less intense traction.

Besides achieving excellent results independent of the degree of urethro-vesical prolapse, the suspension of the endopelvic fascia by two bilateral stitches offers better guarantees against the risk of prolapse which unfortunately we observed, in some patients of the first group controlled after a while. Moreover with the second technique we noted that the 'tobacco pouch' cystopexy performed at the end of the intervention can support the vesical floor completely only if a paravesical suspension stitch is previously fixed.

It is worth noting that this intervention – at first sight a rather easy one – was

indeed extremely delicate as the complication due to the surgical team change. However, since Pereyra himself adjusted his original technique repeatedly over the years in order to prepare the urethral support structure more accurately from below and to achieve longer lasting results, we are further convinced of the effectiveness of our method.

BIBLIOGRAPHY

- 1) Marzetti L., Laurenzano S., Vaccaro G., Bologna M.: *Pat. Clin. Ost. Gin.*, 10, 134, 1982.
- 2) Pereyra A. J.: *West J. Surg. Obst. Gyn.*, 67, 223, 1959.
- 3) Pereyra A. J., Lebherz T. B.: *Obst. Gyn.*, 33, 537, 1967.
- 4) Pereyra A. J., Lebherz T. B.: *The revised Pereyra procedure*. Buchsbaum H. and Schmidt J. D. (eds.), *Gynecologic and Obstetric Urology*. 1st ed., Philadelphia, Saunders, 1978, p. 208.
- 5) Pereyra A. J., Lebherz T. B., Growdon W. A., Powers J. A.: *Obst. Gyn.*, 59, 643, 1982.