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RISK FACTORS FOR MESH SHRINKAGE AND EROSION IN PROLIFT LIKE (PL) SURGERY: CAN MENOPAUSAL STATUS AND DYSLIPIDEMIA EXPLAIN THEM?

Aims of study

The recurrence rate of pelvic organ prolapse (POP) after surgeries is higher than what the surgeons expected. In an attempt to reduce this rate, different mesh surgeries have been used, particularly the anchor mesh surgeries as Prolift. However, despite the good results of the anatomical point of view, new complications have emerged, sometimes difficult to handle, such as erosion and shrinkage of the mesh, which are associated with impaired quality of life. The aim of this abstract is to analyze possible epidemiological risk factors for the erosion or shrinkage of the mesh in patients operated with anchored “hand-made” Prolift like technique in a public hospital in a developing country. We report mesh erosion and shrinkage, epidemiological features, type of surgery, surgical results and postoperative recurrence,

Study design, materials and methods

This is a case-control study with patients who underwent to PL surgeries between January 2008 to December 2009.
Cases were defined as patients who present erosion or shrinkage in the follow-up. Controls were defined as the patients who not presented erosion or shrinkage in the follow-up. Data of patients were obtained from the hospital database by a search for the surgery field. Case notes were reviewed to obtain information like demographics, gynaecological exam (including POPQ quantification), follow-up at 3 weeks, 6 weeks, 3 month, 6 month, 1 year and then yearly. If erosions or retractions occur, these were explicitly recorded in a field specifically designed for it in the hospital database. Methods, definitions and units conform to the standards jointly recommended by the International Continence Society and the International Urogynecological Association, except where specifically noted. All the surgeries were performed by urogynecology unit surgeons. Gynemesh PS was used for making the PL mesh following the figure of the original Prolift, using the Prolift device parts in all surgeries. Informed written consent was obtained from the clinical patients to perform the surgery. The analysis was performed comparatively between patients with erosion or shrinkage and patients without the event. Chi-square and *t* test were used when appropriate to compare the two groups.

Results

Between January 2008 to December 2009 746 new patients were evaluated in the ambulatory urogynecology unit and in the same period 309 surgery were performed. Eighty-eight of them were PL surgery. Seven patients were staged II a, sixty-two III a, two IV a, five III c, six IV c, one II p and five III p in POPQ classification. Twenty-two (25%) of this patients had erosion or shrinkage of the mesh. Thus, the group “No erosion or shrinkage” (NES) is conformed of sixty-six patients, while group "Erosion or shrinkage” (ES) of twenty-two. In the ES group, six of the 22 patients (27,3%) developed erosion and sixteen had shrinkage of the mesh in vaginal physical examination.

Comparison of Demographics, clinical, surgical characteristics and follow-up variables between NES and ES are shown in Table 1

	NES (%)	ES (%)	*p* Value
Mean follow-up±SD (month)	8,1±4,8	7,7± 4,1	0,69
Mean age±SD (years)	61,3±7,5	60,4±8	0,65
Hypertension (HTA)	35 (53)	11 (50)	0,80
Diabetes (DM)	11 (16,7)	4 (18,2)	0,87
Dyslipidemia (DSL)	8 (12,1)	6 (27,3)	0,09
HTA or DM or DSL	42 (63,6)	14 (63,6)	1,00
Coronary cardiopathy	4 (6,1)	0 (0)	0,23
Rheumatological diseases	2 (3)	0 (0)	0,40
Smoking habit	12 (18,2)	4 (18,2)	1,00
Lipid-lowering therapy (LLT)	9 (13,6)	6 (27,3)	0,14
Antihypertensive therapy (AnHTA)	35 (53)	10 (45,5)	0,53
Hypoglycemic therapy (HG)	9 (13,6)	3 (13,6)	1,00
LLT or AnHTA or HG	41 (62,1)	11 (50)	0,31
Aspirin therapy	24 (36,4)	6 (27,3)	0,43
Systemic corticosteroid therapy	1 (1,5)	0 (0)	0,56
Median total parity±SD	3,2±1,6	3,5±1,3	0,35
Post Menopause status	62 (93,9)	16 (72,7)	**0,0066**
Median menopause age±SD (years)	46,2±5,8	47,5±6,6	0,48
Mean BMI±SD (kg/m^2)	28,1±4	29,4±4,7	0,33
Mean operating time±SD (min)	61,9±21	65,9±22,8	0,46
Mean Estimated blood loss±SD (ml)	75,8±42,9	79,5±55,4	0,77

Concomitant Surgeries	19 (28,8)	6 (27,3)	0,89

SD: Standard deviation. In bold statistically significant p values

Type of surgery and recurrence POP are shown in table 2

Type of surgery	NES (%)	ES (%)	*p* value
Anterior Prolift	50 (75,8)	18 (81,8)	0,55
Posterior Prolift	6 (9,1)	0 (0)	0,14
Total Prolift	10 (15,2)	4 (18,2)	0,73
Recurrence	11 (16,7)	6 (27,3)	0,27

Interpretation of results

The ES is frequent (25%), being more frequent shrinkage of mesh than erosion. In an effort to identify epidemiologic risk factors, it is noteworthy that no significant differences were identified between the two groups except Postmenopausal status, wich a protective factor for ES. It is remarkably the large differences not reaching statistical significance presented by DSL. In this subgroup 27,3% of patients with ES had a history of DSL compared with 12,1% in the NES group. If we increase the number of this sample in 36 patients, maintaining the proportions, the present of DSL will reach statistical significance.

Concluding message

It is important to continue the studing risk factors for ES, which worsened the quality of life of patients undergoing such surgeries. With this information it would seem advisable to keep Prolift like only for postmenopausal patients. It is a novel area of analysis the differences found in the dyslipidemia status as a risk factor. It is important to continue the study with larger sample size, trying to achieve statistically significant differences. It's important to study pathologies that are associated with systemic inflammatory conditions as a risk factor for ES. Systemic inflammatory states may be related to the increased response of the host to the mesh, which could lead to ES.

References

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Was this study approved by an ethics committee?	**No**
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Was the Declaration of Helsinki followed?	**Yes**
Was informed consent obtained from the patients?	**Yes**