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IDENTIFICATION AND SURGICAL IMPLICATIONS OF RISK FACTORS FOR RECURRENCE OF PROLAPSE

Hypothesis / aims of study

The epidemiology of prolapse has often considered the presence of risk factors for prolapse occurrence but only very rarely for prolapse recurrence. The identification of the latter could have clinical implications for surgical repair. In fact different authors propose the use of synthetic or biological material in prolapse repair to increase the efficacy of the treatment despite the lack of a strong evidence to support this hypothesis. The aim of our study was to identify risk factors for recurrence in a population of women operated for prolapse and to verify whether the use of prosthetic material in women presenting with such risk factors could be really advantageous.

Study design, materials and methods

In this study we recruited women with symptomatic prolapse referred to two tertiary referral Urogynaecological Clinics. Each woman was evaluated for her medical history with specific questions on lower urinary tract disorders, bowel, prolapse and sexual symptoms. On examination prolapse was scored using the POP-Q system. All these women were then submitted to surgical repair of prolapse either with traditional surgery or with the use of prosthetic material placed anteriorly or posteriorly above fascial plication. Each woman was then reassessed 1, 6 and 12 months after the operation and then yearly using the same criteria adopted preoperatively. All data were then stored onto a database and analyzed in two different phases:

- we first looked at women who had an operation without any prosthetic material and we divided them into two groups in accordance with the presence or absence in their medical history of possible risk factors for recurrence such as age, a Body Mass Index greater than 30, a delivered baby weighting more than 4 kg, familiarity for prolapse, straining at stools, chronic cough, collagen disorders (hernia or varicosity), previous surgery and a prolapse severity $\geq$ Stage III. The recurrence of prolapse after at least six months since the operation was correlated in an univariate way (using the Fisher's exact test) with each considered risk factor. We defined prolapse recurrence as the presence of at least a vaginal descent classified as stage II observed in the same operated vaginal compartment.
- we then used a multivariate analysis to asses whether prolapse recurrence associated with the risk factors we previously found significant (or close to significance) could be minimized using prosthetic material

Results

Four-hundred-and-eighty consecutive women were recruited. To identify risk factors for prolapse recurrence in women submitted to traditional surgery we considered 354 women.

Table 1 shows the results of the univariate analysis of the previously cited risk factors which showed a statistical significance or a quasi-statistical significance when correlated to prolapse recurrence.

Table 1. Frequencies of recurrence, odds ratio and p value for the risk factors resulted significant (or close to significance) for prolapse recurrence in women submitted to traditional surgery

Risk factor	Prolapse Cure (%)	Prolapse Recurrence (%)	OR	p
Baby weight < 4 Kg	193 (83.2)	39 (16.8)	1.7	0.038
Baby weight > 4 Kg	91 (74.6)	31 (25.4)		
BMI < 30	232 (82.6)	49 (17.4)	1.9	0.025
BMI > 30	52 (71.2)	21 (28.8)		
No Previous surgery	248 (81.3)	57 (18.7)	1.7	0.097
Previous surgery	33 (71.7)	13 (28.3)		
Prolapse < stage III	135 (88.2)	18 (11.8)	2.6	0.001
Prolapse ≥ stage III	149 (74.1)	52 (25.9)		

Table 2 shows the results of the multivariate analysis with odds ratio, p value and 95% confidence intervals concerning the possible protective effect of prosthetic material to minimize prolapse recurrence.

Table 2. Odds ratio, p value and 95% confidence intervals of the previously identified risk factors and prolapse recurrence to assess the protective effect of prosthetic material.

Risk Factors	**OR**	**p**	**95% CI**
Baby weight > 4 Kg	1.5	0.076	1.0 – 2.5
BMI > 30	1.9	0.017	1.1 – 3.4
Previous surgery	1.2	0.557	0.7 – 2.2
Prolapse ≥ stage III	2.2	0.002	1.3 – 3.7

Interpretation of results

After univariate analysis we have found that women a) who had delivered a baby with a weight > 4 kg; b) who have a BMI > 30 and c) who have a severe prolapse with a stage ≥ to stage III had a significant higher risk of developing prolapse recurrence after traditional surgery. Women with previous surgery were close to significance. Prosthetic material seems to be protective for women who delivered a baby with a weight > 4 kg and for the ones who had previous surgery. The risk for prolapse recurrence remains significant even with the use of prosthetic material in women with a BMI > 30 and a severe prolapse with a stage ≥ to stage III.

Concluding message

This study managed to identify risk factors for prolapse recurrence and to verify when prosthetic surgery for prolapse repair could be advantageous.