

# Vaginal vault prolapse avoiding failure in colposacropexy

## Abstract

**Introduction:** Vault prolapse is an entity that will be seen more frequently and regardless of the approach to the problem, the most important thing is that the suspension of the vault is as durable or permanent as possible. There are many techniques but colposacrosuspension with mesh application has been considered the best and is the Gold Standard. This study, for the success of surgery, evaluates the number of sutures of the vaginal vault to the sacrospinous bone using a mesh for the approximation and suspension of the vault prolapse.

**Material and methods:** There were four groups of 185 patients, in which one pair of sutures was used in the first group, two pairs of sutures were used in the second group, three pairs of sutures were used in the third group, and four pairs of sutures were used in the fourth group structures.

**Results:** The fourth group was the most successful when none had recurrences over time, constituting 100% success. **Conclusion:** Four pairs of sutures should be applied, four from the vaginal vault to the mesh and four from the mesh to the sacrospinous bone, thus constituting a successful colposacropexy.

**Keywords:** vault prolapse, colposacropexy, success

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## Introduction

Total hysterectomies are increasing regardless of the approach; the frequency of this surgery increased from 8.9 per 1000 in 1994 to 10 per 1000 in 1999.<sup>1,2</sup> In the US, a third of women at the age of 60 have undergone a hysterectomy,<sup>3</sup> however complications increased, perhaps not in proportion but in absolute numbers, with post-hysterectomy vaginal vault prolapse being one of them and representing among 3 and 4 per 1, women, with a risk of 1 per 100 at three years and 5 per 100 women and 5 per 100 at 17 years after all hysterectomies performed.<sup>4,5</sup> This entity is not fatal, however, it is very annoying for the patient and for the authors of this study the only way to solve it is surgery; pessaries have not been a definitive or comfortable solution.

Colposacropexy is a procedure that consists of somehow joining the prolapsed vaginal vault with the sacral bone,<sup>6,7</sup> to repair post-hysterectomy vault prolapse. Procedure that will most likely increase because our population, with the increase in quality of life, more people will reach old age, increasing the frequency of dome prolapses.<sup>8</sup>

However, this surgical procedure has had failures even with colposacrosuspension, considered the Gold Standard in this type of surgery.<sup>7,9</sup> The reason for this study is to present the best procedure that does not have failures compared to others, obviously it is not ethically correct to do a double-blind study in this case, nor will statistical evaluations be made, only the cases will be presented as observation. Reading the development of the presentation of this study will allow the reader to draw their own conclusions.

## Material and methods

Prospective-retrospective observational study.

It begins in January 1990 and ends in December 2018, closed after 28 years. The minimum follow-up was up to five years after surgery.

The approach was by open or laparoscopic abdominal surgery, this being irrelevant because in both cases what is important is the procedure of fixation of the vault to the sacrospinous bone using the mesh.<sup>6,10,11</sup>

Patients with a Diagnosis of Post-Hysterectomy Vault Prolapse<sup>12</sup> enter the study, and with preoperative studies approved according to service protocols.

The procedures were performed in the Gynecology Service of the Department of Gynecology and Obstetrics of the Hospital Nacional Arzobispo Loayza, Clinica Santa Isabel, Clinica Montesur, Clinica Reyna de los Angeles, Clinica Porvenir, Clinica Instituto Oncologica and Clinica San Felipe, all in Lima Peru South America.

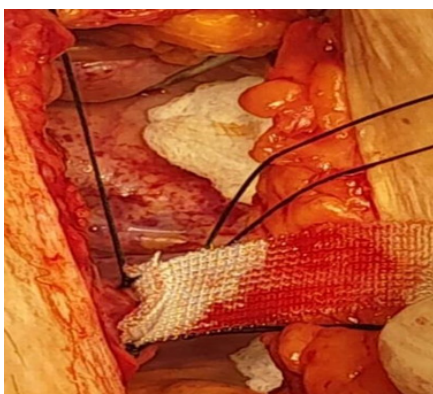
Once the procedure is performed, 5 years are observed; if there is no recurrence, it is considered successful.

For Colposacropexy, a mesh was used to fix the vaginal vault with the sacral bone and silk sutures with MR-35 or MR-40 needles. The mesh was made of polyethylene measuring between 2 to 3 centimeters wide and 3 to 4 centimeters long.

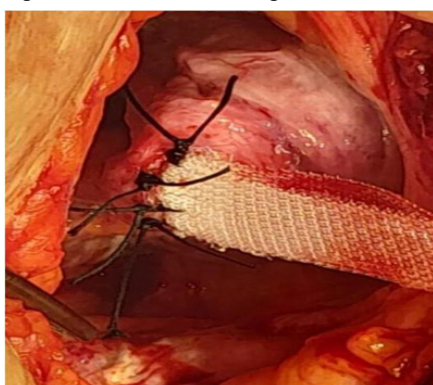
**Procedure:** The patient is placed in a semi-gynecological position and with two Allis forceps the vaginal vault is taken and left clamped to constitute the presentation of the vaginal vault during surgery. The mesh is prepared by sewing it one, two, three or four times with the corresponding suture(s), using No. 1 silk threads with MR-35 or MR-40 needles. Once entered into the abdominal cavity either by open surgery or by laparoscopy, the vaginal dome is presented and a dissection of the peritoneum is performed exposing the dome. The mesh is joined to the dome using the suture(s) of the threads in the mesh Figure 1 and Figure 2. Once the sutures are done, the threads are cut.

The sacrospinous peritoneum is opened and the mesh is faced, extending it to the bone, subsequently making the new suture(s) firmly joining the mesh to the sacrospinous bone, passing through the periosteum Figure 3 and Figure 4.

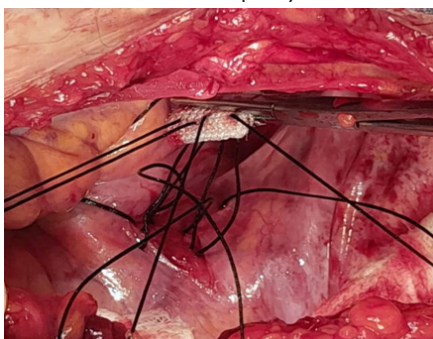
The number of sutures used in each surgery determines which study group they belong to Table 1.



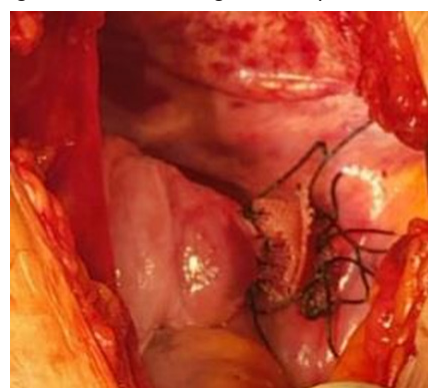
**Figure 1** Placing the mesh sutures to the vaginal dome.



**Figure 2** Four mesh sutures – vault completely done.



**Figure 3** Facing the mesh and suturing the sacrospinous.



**Figure 4** Completed procedure. Colposacropexy with four pairs of sutures.

**Table 1** The number of sutures used in each surgery

Groups	Number	Failures
A	9	9
B	22	21
C	56	49
D	98	0
Total	185	

Four groups were formed:

- A. One suture to the vaginal vault with the mesh and one suture of the mesh to the sacral bone
- B. Two sutures to the vaginal vault with the mesh and two sutures from the mesh to the sacral bone
- C. Three sutures to the vaginal vault with the mesh and three sutures from the mesh to the sacral bone
- D. Four sutures to the vaginal vault with the mesh and four sutures from the mesh to the sacral bone

## Results

**Average age of patients:** Group A: 66 years, Group B: 68, Group C: 65, Group D: 62

**Average parity:** 5 pregnancies.

**Average operating time:** 58 minutes.

**Complications:** Urinary infections 63, abdominal wall infections 25, abdominal wall hematomas 3.

**Number of patients in the study:** Group A: 9, Group B: 22, Group C: 56, Group D: 98. Total 185 patients in Table 1

**Number of failures:** Group A: 9, Group B: 21, Group C: 49, Group D: 0 in Table 1.

## Discussion

We have observed in the world literature that there are failures in colposacropexy,<sup>7,9</sup> there are several reasons and we are not going to discuss them. In our study we have observed that a group of patients operated on with four pairs of sutures in colposacropexy have not presented any failure in more than two decades after surgery. Intraoperative complications did not exist and postoperative complications in our study were irrelevant. This procedure is the closest approximation to total success, therefore we recommend its use and application in post-hysterectomy vaginal vault prolapse.

## Conclusion

In colposacropexy due to post-hysterectomy vault prolapse with an open or laparoscopic approach, four pairs of sutures must be applied, four from the vaginal vault to the mesh and four from the mesh to the sacrospinous bone to obtain a successful colposacropexy without failures.

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None.

## Conflicts of interest

All authors declare that they have no conflict of interests.

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