

Sacrocolpopexy in Management of Vaginal Vault Prolapse

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Aims & Objectives: To review the efficacy of Sacrocolpopexy in the management of vaginal vault prolapse. **Study Design:** Interventional study. **Setting & Population:** Department of Obstetrics & Gynaecology, Jinnah Hospital, Lahore. Women with vaginal vault prolapse after hysterectomy. **Methods and Main-outcome measures:** Abdominal Sacrocolpopexy using proline mesh. Follow-up in these patients were carried out at one week, four weeks, six months, and one year. **Results:** Sacrocolpopexy was carried out in ten patients for vaginal vault prolapse after vaginal (6) and abdominal hysterectomy (4). The mean age was 49.8 years. Parity was between P₃ – P₆ (Mean parity 4.3). Mean operation time was 79.3 minutes. Estimated blood loss was less than 200ml. No intra-operative or post-operative complications occurred in any case. **Conclusion:** Abdominal sacrocolpopexy is effective and safe in the treatment of vaginal vault prolapse. This procedure has high success rate in correcting prolapse without a time dependent decrease in efficacy.

Key Words: Vaginal Prolapse, Hysterectomy, Abdominal Sacrocolpopexy

The pelvic support problems are common, effecting a progressively larger percentage of women as age advances. As women live longer and healthier lives, pelvic floor disorders continue to become even more prevalent and an important social and health issue. These problems are not life threatening but the morbidity is significant¹.

In review of history prolapse was mentioned in the writing of Hippocrates and Galen. The earliest management of prolapse included vaginal packing, tampons, massages, and exercises with some success. First real advance in the treatment was development of pessaries, which was popular in the middle of 19th century. In the 1950s, Milton L. McCall developed a Culdoplasty technique for the prevention of enterocele and post hysterectomy vaginal vault prolapse².

Pelvic support problems accounts for thousands of gynaecological procedures each year, yet our understanding of these procedures remains remarkably slow during past century. Asymptomatic prolapse generally does not require any treatment. The treatment of symptomatic organ prolapse is challenging for the gynaecologists³.

The definite treatment of vaginal vault prolapse is surgical. Although pessaries may be used but in cases where surgery is contraindicated. Surgical option mainly includes vaginal procedures such as suspension procedure using the utero-sacral or sacrospinous ligaments, the LeForte procedure, colpocleisis and abdominal procedures as sacrocolpopexy^{4,5,6}. Although no specific procedure can truly be considered the 'gold standard', sacral colpopexy appears to be the most successful vaginal vault suspension operation^{7,8}. Choosing the correct operation for prolapse is critical for success but the ultimate choice of the procedure depends upon the patient's choice and the degree of anatomical defect³.

Vaginal operation route is considered to be superior in most initial reconstruction. The points that are given in favor of abdominal route (abdominal sacrocolpopexy) are that they are rescue for the previous failed procedures for

prolapse, protects vaginal length, axis, long-term cure and where abdominal surgery is indicated for some other benign conditions.

The abdominal sacrocolpopexy is successful operation for vault prolapse. Previously for these procedures autologous materials e.g. facia lata, rectus sheet etc were used; but synthetic relatively inert materials are commonly preferred e.g. Proline, Goretex, Silastic Marlex and Mersilene. In the present study proline mesh was used. Our study emphasizes the use of abdominal approach for the correction of vault prolapse where there is appropriate indication^{9,10,11,12,13}.

Patients and methods:

Ten patients with vault prolapse after vaginal or abdominal hysterectomy were selected from gynae outpatient department, Jinnah Hospital, Lahore.

Procedure for Sacrocolpopexy low transverse abdominal incision was made. After opening the abdomen elevation of the vaginal vault was carried out through vagina with vaginal elevator. The dissection of peritoneum off the anterior and posterior vaginal walls. 6–9 full thickness sutures of vaginal wall were placed through the mesh, sub peritoneal tunnel was created in cul-de-sac. Free end of the graft passed through the tunnel and sutured with anterior longitudinal ligament over the sacral promontory and peritoneum was closed covering the mesh. This resulted in suspension of vagina to the sacral promontory with intervening mesh. At the end of the procedure vaginal was inspected for position of the vault and bleeding.

Main Outcome Measures: The time spent in surgery, the intra and postoperative complication, symptom relief, recurrence of prolapse and any other associated symptoms (urinary, bowel, pain etc) in their regular follow-up at 7 days, 3 month, 6 months and 1 year.

Results:

Sacrocolpopexy was carried out in ten patients for vaginal vault prolapse after vaginal hysterectomy in 6 patients and

after abdominal hysterectomy in 4 patients (Table I). The mean age was 49.8 Yrs.

The parity of the patients was between P₃ to P₆ (Table II). The mean parity was 4.3. The time taken by doing the procedure is shown in figure I and the mean operation time was 79.3min. No major intra-operative or post-operative complication occurred in any case. Estimated blood loss was < 200 ml. The minor complications like dysurea, postoperative pain, constipation and backache occurred in a few patients that relieved within a week postoperatively. They were discharge from hospital in satisfactory condition on 7th postoperative day (Fig II). There were no complaints of recurrence of symptoms in any above-mentioned patients at 1-year follow-up. No urinary and bowel complaints noted. No patient presented with dysparurea or vaginal discharge.

Tables Age of the Patients undergoing Sacrocolpopexy

Age	Type of hysterectomy
47	Vaginal
49	Vaginal
52	Abdominal
50	Vaginal
48	Abdominal
49	Abdominal
52	Vaginal
53	Vaginal
47	Vaginal
51	Abdominal

Mean age: 49.8

Table II: Parity of the patients undergoing Sacrocolpopexy

Parity	Type of hysterectomy
4	Vaginal
6	Vaginal
3	Abdominal
5	Vaginal
4	Abdominal
3	Abdominal
5	Vaginal
4	Vaginal
6	Vaginal
3	Abdominal

Mean parity: 4.3

Figure I: Operation Time

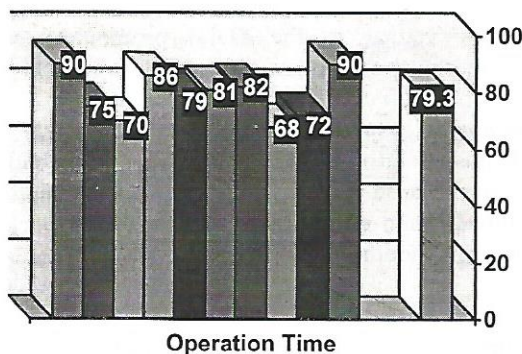
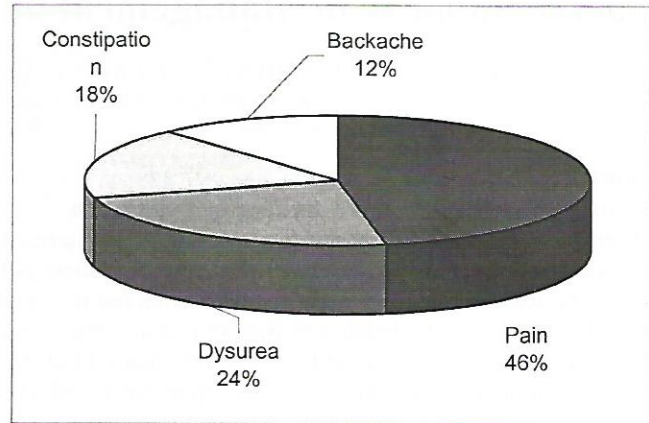


Fig II Postoperative Complications



Discussion:

This study focused on abdominal sacral colpopexy, which provide the anatomically correct restoration, secure and durable support for advanced vaginal prolapse. In our study mean age of the patients was 49.8 years while in a study conducted by Fox SD, the mean age of their patients was 57 years¹⁴.

We used a prolene mesh in colposacropexy procedure for anchorage to provide a large vagina mesh contact area thus reducing the risk of suspension failure. Similar considerations were given by E. Costantini in a study conducted in Italy. But they used Gore-Tex mesh in their procedures¹¹.

In all of our patients, the descensus was markedly reduced. This is consistent with the study of urology department, university of Perugia¹¹. There were minimum intra-operative complications and acceptable postoperative problems with the prolene mesh. Similar results were attained in a study of colposacropexy with prolene mesh by Baker KR¹⁰. In our study, we also noticed that patients at their three months, six months and 1 year follow-up visit were very satisfied with the procedure. Diana M conducted a study for treatment of vault prolapse with abdominal scarocolpopexy using prolene mesh on 15 patients with mean age of 57 years¹⁵. None of their patients had relapses, infection and rejection of the prosthesis. Similar results were concluded in our study. This study has documented a good outcome and effectiveness of the operation as well as good post surgical patient's satisfaction with no symptomatology or signs of dysfunctional vaginal prolapse or enterocele formation. The study conducted by Barrington shows that abdominal sacrocolpopexy has higher morbidity than suspension procedures, 10% patients required blood transfusion due to hemorrhage from pre-sacral vessels, voiding problems (e.g. stress incontinence), infection of the mesh area and longer recovery period^{16,17}. No such problem occurred in our study.

Conclusion:

Abdominal sacrocolpopexy is effective and safe in the treatment of vaginal vault prolapse. This procedure have high success rate in correcting prolapse without a time dependent decrease in efficacy. Abdominal sacrocolpopexy with a prolene mesh is confirmed in many studies as the most valid technique. There were no complications and long-term problems were minimum. In the hands of experienced surgeon, colposacropexy is a safe, efficacious operative procedure that should remain the procedure of choice for vaginal vault prolapse since it restores the normal vaginal axis, maintains existing vaginal length and provides permanent cure. There is no such study that includes long-term results measured with objective prolapse assessment and validated quality of life measures. It is reasonable to conduct randomized control trials of sacral colpopexy with long-term follow-up.

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