Laparoscopic Peritoneal Pull Through Technique: A Successful Outcome In Vaginal Agenesis

INTRODUCTION

The total absence of Mullerian development will lead to aplasia, while the partial development, which is a common occurrence leads to tubal and partial uterine development and complete absence of upper three fourth of the vagina. In most of the cases of upper vaginal absence, the uterus is usually duplicated, hypo plastic or rudimentary. The ovaries are normal, but are placed on the lateral pelvic wall along with the uterus. Classically, this is described as Mayer-Rokitansky-Kuster-Hauser (MRKH) syndrome. Probably, it has an autosomal recessive genetic transmission. These patients have normal secondary sexual development. The estimated prevalence is about 1:4000 to 5000 women

Operative options available for the creation of neo-vagina include free skin graft, sigmoid vaginoplasty, amnion graft, etc. These often lead to stenosis, scarring, contracture leading to dyspareunia and the need for laparotomy. Transformation to squamous cell carcinoma from free skin graft and adenocarcinoma from sigmoid has been reported. The amnion graft can transmit hepatitis or human immunodeficiency virus, although the use of freeze-dried amnion prevents such a transmission. These procedures are complicated and time consuming, and result in complications.

Davydov first described the use of peritoneum in vaginoplasty. He reported a series of 28 patients with good results and complete epithelialization was reported in 8 months. The peritoneal use procedure was done by an open laparotomy method. Now, it is being replaced by laparoscopy. It was Semm who first described the creation of the neo-vagina using a laproscope. He was of the opinion that the laparoscopic modification resulted in shorter operating time and reduced postoperative morbidity.

MATERIALS AND METHODS

A total of nine patients with congenital absence of vagina (MRKH syndrome) (Fig. 1) were treated with laparoscopic peritoneal pull through technique at AMRI Hospital, a private hospital at Bhubaneswar. The patients were followed up for 1 year. The patients ranged between the ages of 16 and 24 years.
• At first, the vaginal mucosa was infiltrated with normal saline mixed with adrenaline in the dilution of 1 in 100,000.
• Then an incision was placed transversely in the area between two small dimple-like projections, approximately half way between the bladder and rectum.
• Then a finger was placed dissecting blindly with a gauze piece trying to stay exactly in the space between the bladder and the rectum. (Fig. 2)

• One 10 mm and two 5 mm secondary ports were created. A free flap of peritoneum by harmonic scalpel was created keeping a close eye on the ureters trying to push them laterally. In two cases where there was a rudimentary horn, which was excised laparoscopically and was removed through the vagina through the opening which was created to pull the peritoneum down. (Figs. 3 and 4)
When the finger protrusion was seen laparoscopically, the bulge was cut open by a monopolar hook from above.

The peritoneal flaps were then pulled down by a 10 mm gall bladder extractor to the vagina through this opening, which was created after cutting the apex by monopolar hook and pulled from below so as to reach the introitus. They were attached using 2-0 vicryl-interrupted sutures. (Fig. 5)

The top of the neo-vagina was closed using 2-0 ethibond purse-string suture to obliterate the new space created. (Fig. 6)

A vaginal mould was placed in situ in the form of a condom filled with gauze piece and was changed every 24 h. After discharge, she was asked to dilate it gradually with a plaster of paris mould three times a day for atleast 10 mo in each to maintain the desired length till sexual activity is resumed.

Average operative time, days of hospitalization and any intra-operative and postoperative complications were noted. Long-term follow-up of these patients was done to note the vaginal depth and sexual satisfaction.

Clinical summary

The clinical summary of patients treated with laparoscopic peritoneal pull through vaginoplasty. The outcome was noted in all nine patients.

- Average operative time was on an hour and 15 min.
- Average stay was 4 days.

There were no intraoperative complications though two patients complained of uneasiness of the lower abdomen and retention of urine, which improved immediately after the mould was removed. There was adequate vaginal length in all where a normal-sized sim speculum could be placed comfortably.

Sexual satisfaction on follow up: Out of 9 patients, 4 patients married after the vaginoplasty. All 4 patients reported no difficulty to either partner.

Vaginal lubrication was required for 2 months. Three patients were subjected to neo vaginal biopsy after 12 months of surgery and showed the normal stratified vaginal lining.

Statistical analysis

Retrospectively, it was observed that:

- Age: 80% of patients belonged to the age group 18 to 22, while the youngest was 16 and the oldest 24 years of age.
- Marital status: 25% of patients were already married, while 50% married immediately post-surgery.
- All patients required supervised mould dilatation in the first postsurgical week.
- 100% of women required vaginal lubrication for first 3 months.
- The pain-free intercourse was usually performed after 3 to 6 months.
Vaginal length done by other techniques progressively underwent fibrosis, and the reduction of the vaginal length by upto 50% over a period of one year. With progressive difficulty to both partner and shortening of vaginal length, vaginal dryness was a major problem necessitating use of lubrication too.

CONCLUSION
The pull through technique gives satisfactory results in term of lesser morbidity, adequate vaginal length and lubrication with very little or no chance of fibrosis in the future.

REFERENCES