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Laparoscopic Creation of a Neovagina in Women with MRKH Syndrome -A New Look to an Old Problem

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Objective
Reproducible, easy and safe laparoscopic technique of vaginoplasty in Rokitansky syndrome using peritoneum for anterior wall and rectum for posterior wall of neovagina with good long term patient satisfaction.

Design
Stepwise demonstration of technique

Setting
Rokitansky syndromes incidence is 1 in 4000 new born girls due to developmental failure of mullerian ducts characterized by partial or total agenesis of vagina and uterus. Phenotypically and genotypically female, patients present with primary amenorrhea.

Laparoscopic vaginoplasty will enable them to have a conjugal life and genetic pregnancy by surrogacy.

Intervention Step-Wise
- The pelvis is inspected and the procedure begun by giving a U-shaped incision in the peritoneum from one round ligament to another.
- Anterior to the midline peritoneal plate, the bladder is dissected down up to the trigone. After doing many Rokitansky cases we have found a peritoneal plate between bladder and rectum- we dissect down bladder up to trigone and rectum up to perineum from this plate and use it to form the anterior wall of the distal vagina
- Posterior to the peritoneal plate U shaped incision is given on the peritoneum from one ureter to the other. Both the ureters are lateralized.
- The rectum is dissected down.
- The peritoneum over the rectum is mobilized enough so the it can reach the introitus without causing unwanted pull on the rectum.
- Vaginally either H incision or Hegar's dilators are used to dilate bilateral mullerian duct openings
- The median raphe is cut and with help of two vaginal retractors bladder is pushed up and rectum is pushed down carefully in the right direction, to avoid injury to the bladder and rectum, until laparoscopic light is seen at the apex. A swab stick is then introduced in to the blind vagina and held in place.
- Laparoscopically the vault of the blind vagina is opened by incising the tissue on the swab stick with ultrasonic scalpel adequately.
- The posterior peritoneum is fed by the laparoscopic assistant which is held with a long artery forceps by the surgeon from the vaginal end.
- It is placed evenly over posterior introitus and sutured with vicryl to the introitus with 4-6 interrupted sutures.
- The introitus is then plugged with Betadine-soaked gauze.
- Bilateral round ligaments are cut and peritoneal incisions are extended bilaterally up to infundibulo pelvic ligaments to mobilize them.
- Purse string stitches are then taken with Prolene 1-0 at the level of the ovaries – starting from one uterine bud, leaving peritoneum lateral to ureters, through the serosa of rectum to the uterine bud on the other side and tied up. This forms the apex of vault of the neo vagina.
- The swab stick is then withdrawn from the introitus and a sterile mould, covered with Xylocaine jelly, is introduced up to the apex.
- The uterine buds and the fold of intervening peritoneum up to the peritoneal plate on both sides is then sutured together in the midline with PDS 1-0 continuous tension free sutures. This forms the proximal half of the anterior wall of the neovagina.
- The distal half of the anterior wall of the neo vagina is formed by the peritoneal plate.
- The posterior wall of neovagina is formed by rectum.
- Omentum is mobilized down and fixed with apex and anterior wall of neovagina to strengthen it.

Conclusion
Historically, vaginoplasty success has been poor with many complications as mostly were done vaginally blindly. Laparoscopic vaginoplasty allows for better visualization, making it safer than vaginal procedure alone. The technique is easily reproducible, causes minimum blood loss, has a quick recovery and good long-term results [1-15].

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