

## Video Article

### Step-by-step colpotomy in total laparoscopic hysterectomy: a technique to avoid apical support damage for upper vagina

#### Mısırlioğlu et al. Step-by-step colpotomy in total laparoscopic hysterectomy: a technique to avoid apical support damage for upper vagina

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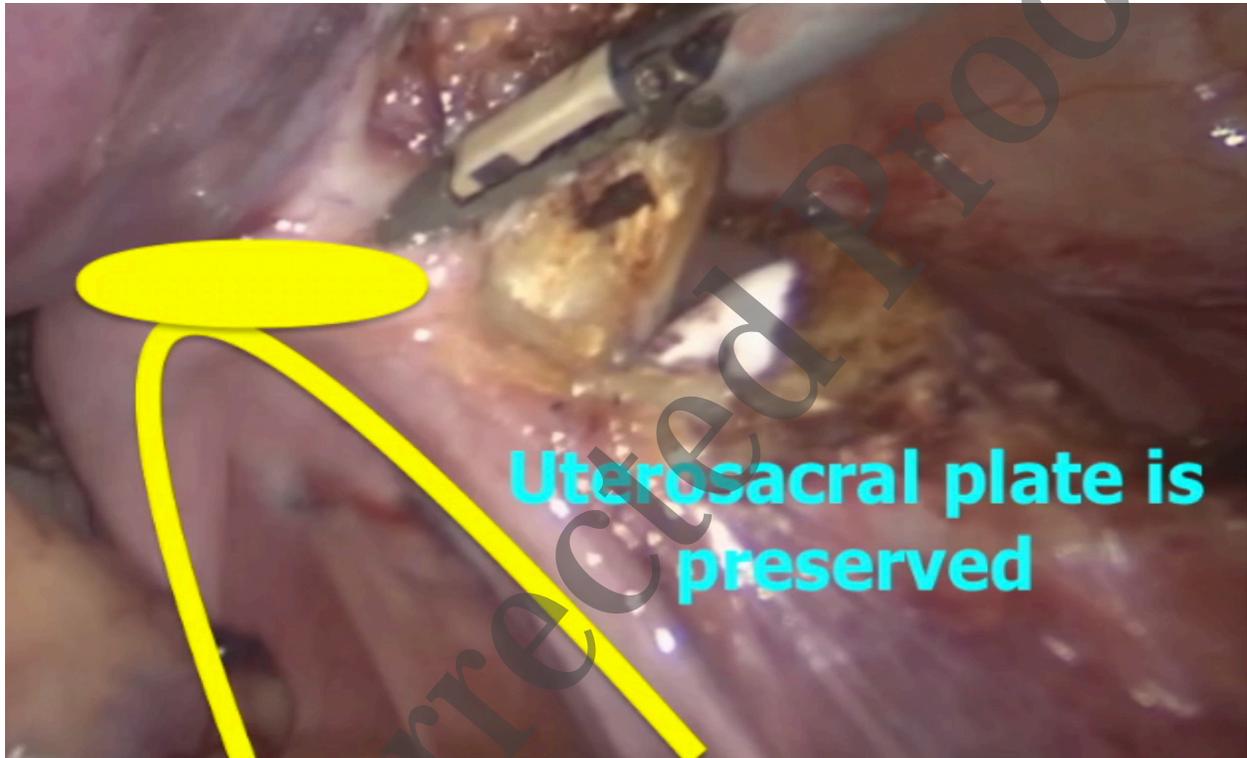
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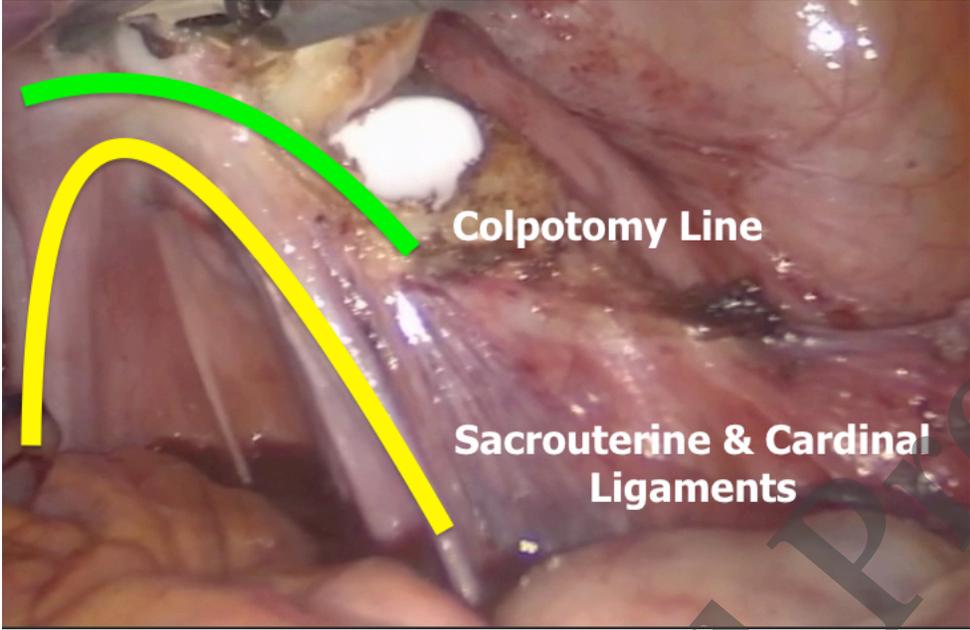
The purpose of this video article is to demonstrate our colpotomy technique that enables maximal protection of the cervical ring, helps to prevent the ureteral injury by distancing, and avoids shortening of the vagina at total laparoscopic hysterectomy. The operation was performed under general anesthesia in dorsal lithotomy position. The abdominal cavity was insufflated, and a 5 mm primary trocar was placed through the umbilicus. A 30-degree telescope was used for visualization of the peritoneal cavity. A 2,4 mm percutaneous instrument (MINILAP® SYSTEM WITH MINIGRIP® HANDLE) to the upper right quadrant, a 3 mm port to the left lower quadrant, and a 5 mm port to the right lower quadrant were placed. Our hysterectomy technique has been previously described(1, 2). Colpotomy incision was started from the uppermost middle point of anterior vagina, and extended to both sides with a monopolar L-hook electrocautery at 40 watts cutting mode (3). Then the manipulator's blade was maneuvered into the right lateral fornix, and THUNDERBEAT platform (Olympus Medical Systems Corp, Tokyo, Japan) was chosen as the modality of energy for the transection of the rest of the vagina. After rotating the blade of manipulator into the lateral fornix, it was pushed forward delineating the connection between vagina and cervix and then retracted backward to give place to THUNDERBEAT. One jaw of THUNDERBEAT was inserted into the fornix. The vagina was cut from the uppermost part leaving cardinal ligaments maximally on the vaginal side (Figure 1). At the posterior part of colpotomy, the vaginal wall was cut from the uppermost part of uterosacral ligaments, as well (Figure 2). Finally, the left lateral fornix was cut by the same principles, and colpotomy was completed circumferentially. By using the manipulator's blade, at the uppermost margin of the vagina, ureters remained apart from the transection area, uterosacral and cardinal ligaments were protected, and the vaginal length was preserved maximally (4). After the detachment of uterus, the specimen was removed vaginally. The vaginal cuff was closed horizontally by using unidirectional barbed suture (1, 5). In our technique, colpotomy starts immediately after the transection of the bilateral uterine artery. In the absence of unnecessary paracervical tissue dissection below this level, the possibility of ureteral injury could be minimized, and the sacrouterine and cardinal ligaments could be maximally preserved (6). Colpotomy is carefully performed above the blade of uterine manipulator after accessing the anterior vaginal fornix. Transection of cervicovaginal connection from the uppermost part warrants maximal preservation of the cervical ring. A detachment of vagina above cervical ring can be accomplished via effective uterine manipulation. Stretching tissues by applying enormous pressure on uterine manipulator are pivotal for exposure of vaginal fornices that allows easy transection of the uppermost vagina. Maximal preservation of paracervical ligaments with this technique preserve the apical support of vagina, and avoids shortening of vaginal length. The technique also minimizes the ureteral injury by distancing.

## References

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