

Three-port robotically assisted laparoscopic hysterectomy (RALH) in case of severe adhesions: A didactic video

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Abstract

Post cesarean adhesiolysis during hysterectomy may be sometimes challenging, especially in case of associated adenomyosis or endometriosis. Nowadays, more and more surgeons use robotic assistance to perform laparoscopic hysterectomy. The number and size of trocars may influence postoperative pain. We present in a video a robotically assisted laparoscopic hysterectomy (RALH) using only two instruments and trocars to perform a difficult post cesarean adhesiolysis with removal of associated endometriosis.

Abbreviations: RALH: Robotically Assisted Laparoscopic Hysterectomy.

Introduction and aim of the video

Hysterectomy is a very common gynecological operation [1]. Cesarean section is the most frequent surgical intervention in many countries and has increased tremendously during the last 30 years [2]. Consequently, it is nowadays not uncommon to be confronted with an adhesion status of the vesico-uterine fold. Hysterectomy may be performed by abdominal or vaginal route. In case of abdominal route, in order to reduce postoperative pain and morbidity of laparotomy, minimally invasive surgery is performed whenever possible. Laparoscopy may be assisted robotically enhancing vision and ergonomic of the surgeon. Three dimension vision of robotically assisted laparoscopic hysterectomy (RALH) helps better visualization of vessels, reducing blood loss, and it may be an advantage for difficult dissections. Results from randomized controlled studies show similar results between RALH and standard laparoscopic hysterectomy, but at the price of higher costs [3,4]. Most of gynecological robotic procedures are performed with at least three robotic trocars and an additional assistant port. In order to reduce postoperative pain, number and size of abdominal wall incisions play a significant role. In addition, women are also concerned by aesthetic results which may be improved by reducing the number of scars. We showed in a previous study that three-port RALH was feasible and safe for simple hysterectomy [5]. We present in a video a three-port robotically assisted laparoscopic hysterectomy (RALH) in case of significant post cesarean adhesions of the vesicouterine fold associated with endometriosis lesions.

Material and methods

Our video shows the case of a 51-year-old woman gravida 1, para 1, with history of cesarean section and hysteroscopic myomectomy 19 and 9 years before respectively. She complained of chronic pelvic pain with dysmenorrhea, dyspareunia and pollakiuria. Symptoms increased over time as well as the size of myomas, and she was decided to perform a hysterectomy. At clinical examination, uterus was enlarged and very painful, with reduced mobility. There was no sign of posterior deep endometriosis. Ultrasound revealed signs of adenomyosis with small

fibroids and suspicion of dense pelvic adhesions between bladder and uterus. Hysterectomy with prophylactic salpingectomy was decided with the patient. We planned a RALH to benefit from enhanced 3D vision to perform potential significant vesicouterine adhesiolysis.

We placed the patient in the lithotomy position under general anesthesia and after disinfection set up a Hohl manipulator (Karl Storz Company Tuttlingen Germany) at the beginning of the procedure to expose the uterus. Prophylactic antibiotics were injected intravenously (Cefazolin 2 g IV (Kefzol®)) at anesthetic induction. We performed insufflations of CO₂ with a Veress needle introduced at Palmer point (left hypochondrium). We used three 8 mm trocars (an 8 mm supraumbilical port for a 0° optic and two 8 mm lateral ports for the instruments) and used the Da Vinci Xi robot (Intuitive surgical, Sunnyvale California USA).

Results

The video illustrates the advantages of robotic assistance to perform a difficult adhesiolysis during hysterectomy with step by step procedure. We used monopolar scissors, a bipolar grasper and two needle drivers. To limit the risk of damaging the bladder, we filled it with a liquid tinted with indigo carmine blue to better distinguish it within the adhesions. Associated prophylactic salpingectomy was performed. We removed associated endometriosis lesions, and performed bilateral ovariopexy with round ligaments at the end of the intervention to reduce the risk of subsequent ovarian torsion.

Postoperative course was uneventful and the patient went home on the second postoperative day. She had one month and three months

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postoperative controls and all painful and urinary symptoms were resolved.

Discussion and conclusion

We demonstrate that with robotic assistance, a difficult hysterectomy can be performed using only two working trocars with minimal bleeding. We believe our video may help surgeons perform RALH in case of severe adhesions in a standardized way without the need of an additional assistant trocar.

According to the Swiss law, this manuscript does not need approval of an Ethics committee and received Institutional Review Board exemption.

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Autorship and contributorship

Patrick Dällenbach: Data collection, manuscript writing.

Florin Constantin: Video, manuscript writing

Farida Akhoudova: Video, manuscript writing

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References

1. Jacoby VL, Autry A, Jacobson G, Domush R, Nakagawa S, et al. (2009) Nationwide use of laparoscopic hysterectomy compared with abdominal and vaginal approaches. *Obstet Gynecol* 114: 1041-1048. [[Crossref](#)]
2. Boerma T, Ronsmans C, Melesse DY, Barros AJD, Barros FC, et al. (2018) Global epidemiology of use of and disparities in caesarean sections. *Lancet* 394: 23-24. [[Crossref](#)]
3. Payne TN, Dauterive FR (2008) A comparison of total laparoscopic hysterectomy to robotically assisted hysterectomy: surgical outcomes in a community practice. *J Minim Invasive Gynecol* 15: 286-291. [[Crossref](#)]
4. Sarlos D, Kots L, Stevanovic N, Schaer G (2010) Robotic hysterectomy versus conventional laparoscopic hysterectomy: outcome and cost analyses of a matched case-control study. *Eur J Obstet Gynecol Reprod Biol* 150: 92-96. [[Crossref](#)]
5. Dällenbach P, Petignat P (2014) Perioperative outcomes of three-port robotically assisted hysterectomy: a continuous series of 53 cases. *J Robot Surg* 8: 221-226. [[Crossref](#)]