

Video Article

Two port laparoscopic trachelectomy without the use of ureteral stents Azadi et al. Two port trachelectomy

Greg Marchand¹, Sienna Anderson¹, Stacy Ruther¹, Sophia Hopewell¹, Giovanna Brazil¹, Katelyn Sainz^{1,2}, Hannah Wolf¹, Alexa King¹, Janelle Vallejo MS^{3,1,2}, Kelly Ware^{1,3}, Kaitlynn Cieminski¹, Anthony Galitsky¹, Ali Azadi¹

¹The Marchand Institute for Minimally Invasive Surgery, Mesa, AZ USA

²Washington University of Health and Science, San Pedro, Belize

³International University of Health Sciences, Basseterre, St. Kitts

Address for Correspondence: Greg Marchand
Phone: 4809990905 e-mail: gm@marchandinstitute.org

DOI: 10.4274/jtggg.galenos.2020.2020.0027

Received: 2 December, 2019 **Accepted:** 30 June, 2019

This Manuscript has been reviewed by the institutional IRB board at Marchand Institute and was found to be exempt from IRB review. (July 2018)

Abstract

Trachelectomy is a notoriously difficult laparoscopic procedure secondary to remaining scar tissue from the prior supracervical hysterectomy, as well as the necessity to clear vital organs including the bladder and the rectum out of the plane of dissection in order to remove the cervix. Many authors have suggested techniques involving ureteral stents to minimize the chance of ureteral injury. Our institute presents this two-port laparoscopic technique without the use of stents which we believe safely accomplishes the trachelectomy through very minimally invasive means.

Keywords: Trachelectomy; Laparoscopy; Single Port; Two Port; Robotic; Lysis of Adhesions; Minimally Invasive Surgery; Marchand; Marchand Institute; Marchand Institute for Minimally Invasive Surgery; Uterine Cervix; Cervix; Removal Of Cervix

Introduction

Trachelectomy is a notoriously difficult laparoscopic procedure.¹ The reasons for this include remaining scar tissue from the prior supracervical hysterectomy, as well as the necessity to clear vital organs including the bladder and the rectum out of the plane of dissection in order to remove the cervix.²⁻³ Based on our review of the literature many authors have discussed the use of novel techniques⁴⁻⁵, ureteral stents,⁶⁻⁷ and uterine manipulators⁵ for the purpose of performing trachelectomy.⁸ In this video we present our technique of

laparoscopic two-port trachelectomy using a novel approach of vaginal tension on the cervix to complete the colpotomy.

Objective

To design a laparoscopic technique to perform a safe laparoscopic trachelectomy in the safest, most minimally invasive, cost effective way possible, without the use of ureteral stents. We designed a surgical technique based on several novel aspects. First, we began dissection on the cervical stump with a linear horizontal incision to maximize the distance from the bladder and rectum. (Figure 1) Next, we used a technique of keeping pressure pushed against the vaginal cuff deep within the abdomen to move the ureters laterally, thus eliminating the need for ureteral stents. We overcame the obvious problem of keeping the cervix planted against the manipulator by the novel usage of a laparoscopic tenaculum used to hold the cervix from the vaginal approach (through the manipulator.) (Figure 2.) Thus we were able to complete the circumferential colpotomy (Figure 3) with the cervix firmly held against the internal ring of the manipulator at all times.

Design

A narrated video demonstration of the surgical procedure (Canadian Task Force Classification III). Setting We developed a novel method for retaining the cervix at the apex of our manipulator while maintaining this pressure. The setting was a suburban hospital in the United States.

Interventions

The patient was an obese 46 year old female with pain in the area of the cervix and vaginal bleeding 10 years after open supra-cervical hysterectomy. Two port laparoscopic trachelectomy without ureteral stents was performed. Our novel technique was successful in completing the procedure without complications. We have explained the technique and instrumentation in this video for reproducibility. The patient was discharged 26 hours after surgery and the recovery was uneventful.

Conclusion

Our described technique is a feasible, reproducible procedure for laparoscopic trachelectomy. Novel aspects of our technique may effectively eliminate the need for pre-operative ureteral stents in some cases.

Acknowledgements: Dr. Marchand would like to acknowledge the time and effort of the students, residents, clinical researchers and fellows at the institute who contributed to producing this video.

Informed Consent: Patient gave written consent for usage of video prior to and after procedure.

Conflicts of Interest: Authors declare no conflicts of interest.

Financial disclosures: All authors have no disclosures.

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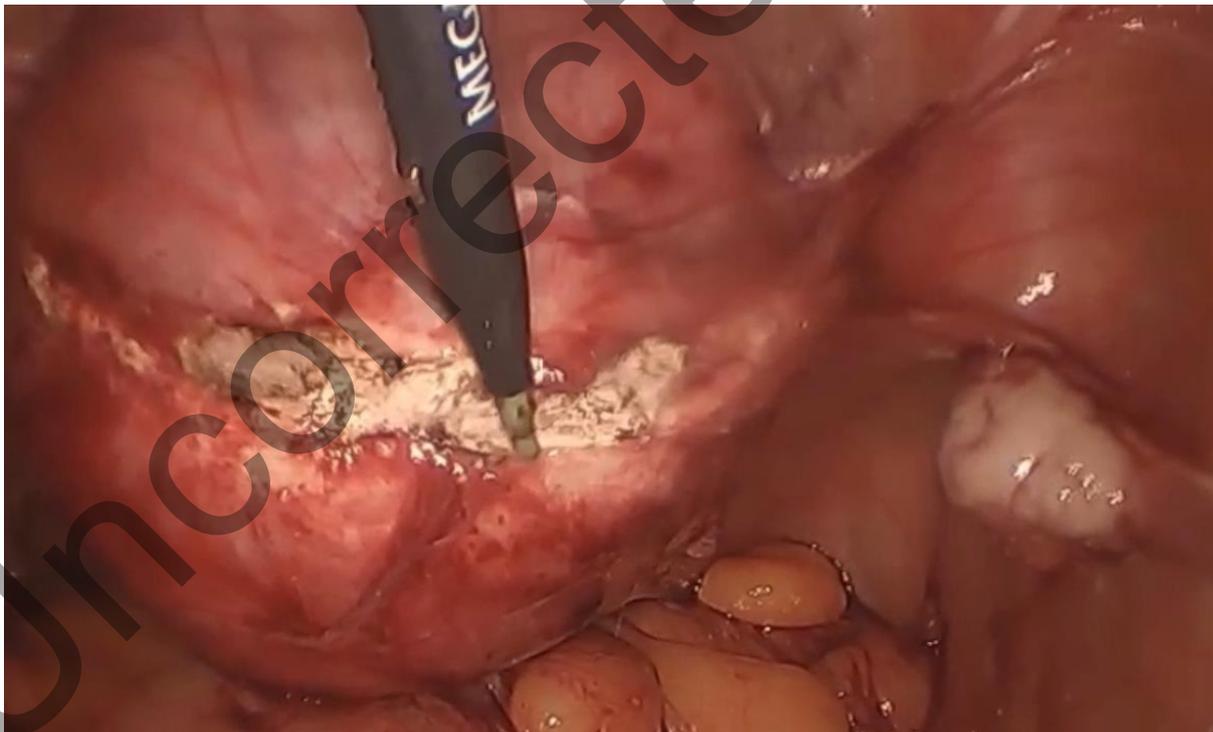


Figure 1. Initial dissection into the cervical stump is started in a linear pattern in order to maximize the distance from both the bladder and the rectum

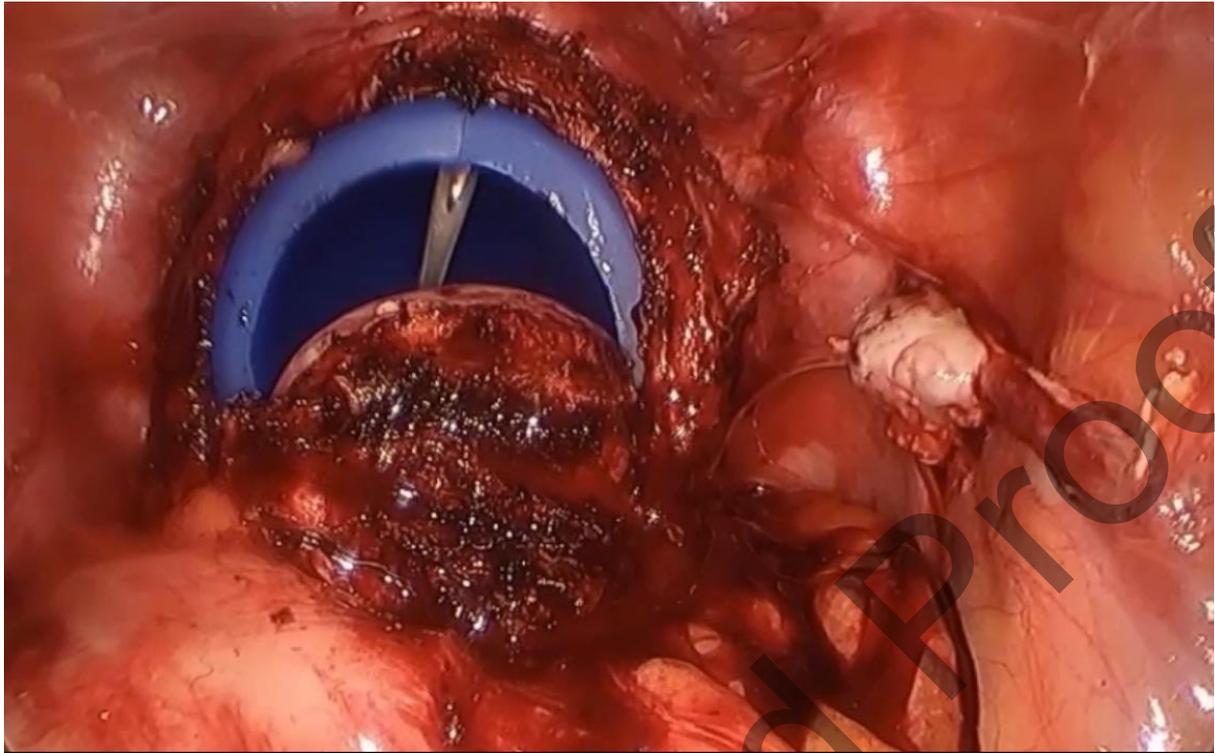


Figure 2. A 5mm laparoscopic sharp-tooth tenaculum is inserted vaginally in order to grasp the cervix and hold tension against the manipulator. This allows the manipulator to be pushed cephalad while completing the colpotomy. The resulting forced push the ureters laterally, minimizing the risk of ureteral injury

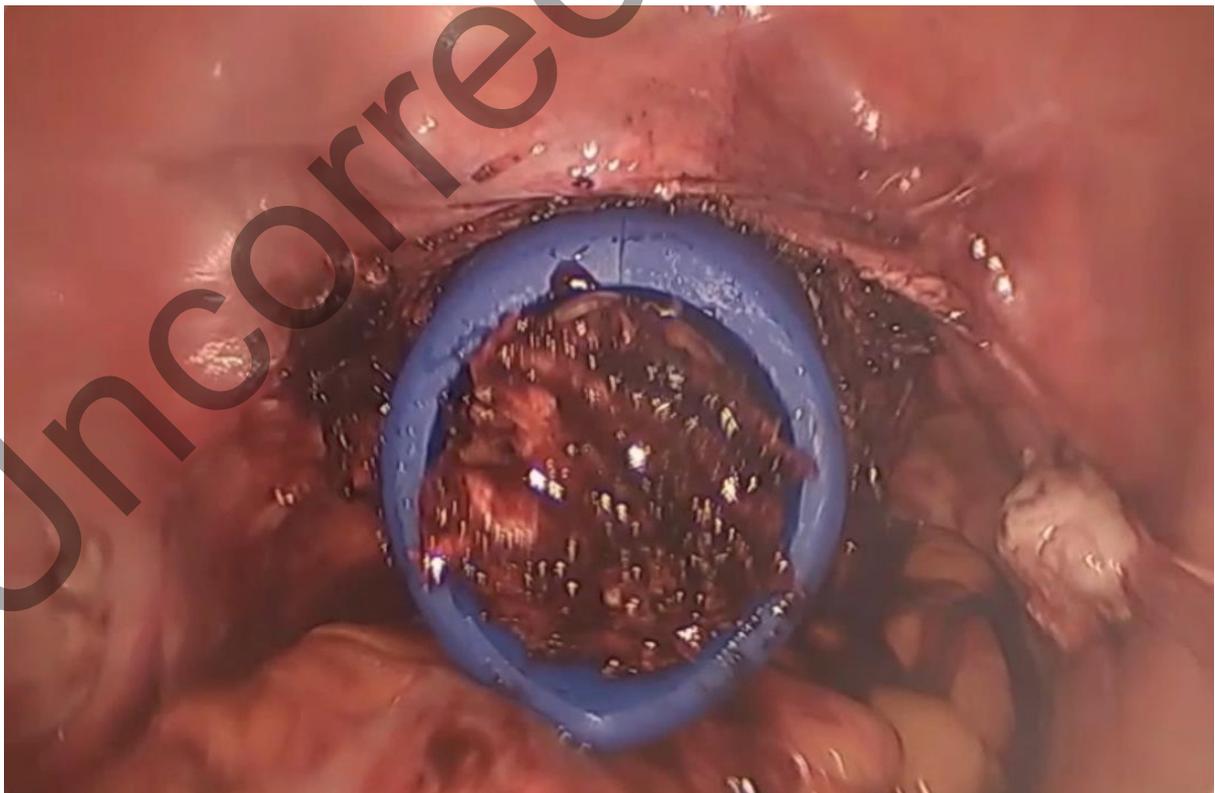


Figure 3. The colpotomy has been completed and the cervix is free within the manipulator

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