

## vNOTES (transvaginal natural orifice transluminal endoscopic surgery) hysterectomy for a large 2.465 Kg uterus (Video Article)

Author: Suyash Naval<sup>1</sup>, Rucha Naval<sup>1</sup>

Affiliation: <sup>1</sup> Lifescope NOTES Centre, Naval Multi Speciality Hospital, Jalgaon, India

### Abstract

**Objective:** To demonstrate the technique of vNOTES (transvaginal natural orifice transluminal endoscopic surgery) hysterectomy for a large uterus.

**Design:** Step by step description of vaginally assisted NOTES hysterectomy for a large uterus.

**Intervention:** Transvaginal natural orifice transluminal endoscopic surgery (vNOTES) hysterectomy has been shown to have advantage of shorter operating time, shorter hospitalisation, lower pain scores and less complications over the total laparoscopic hysterectomy (1). It provides the advantages of endoscopic surgery such as magnified vision and more operative space over the traditional vaginal surgery (2). For hysterectomy of a large uterus, vNOTES provides more direct and quicker approach to the uterine vessels compared to the laparoscopy (1). vNOTES hysterectomy can be performed for large uteri without making any abdominal incision (3). The surgical case described in this video demonstrates vNOTES hysterectomy for a uterus weighing 2.465 Kg.

A 42-year-old P2 L2 Indian woman presented at our hospital with complaints of menorrhagia for 7 months and mild lower abdominal pain for 1 month. She underwent an ultrasonography that revealed an enlarged uterus with a solitary antero-fundal intramural fibroid measuring 21 x 18.5 x 16.3 cm compressing the uterine cavity. Patient was counselled and decision was taken to do a hysterectomy. After explaining all the options of the routes of hysterectomy, vaginally assisted NOTES hysterectomy was planned. Informed and written consent was obtained for the planned surgery with conversion to laparoscopy or laparotomy if required.

Vaginally assisted NOTES hysterectomy was performed with following key steps which we have described earlier (4) -

1. Initial steps of traditional vaginal hysterectomy: Colpotomy, bladder dissection and opening of posterior pouch.
2. Placement of vNOTES glove port and establishment of pneumoperitoneum. The use of surgical gloves to prevent CO2 escape does not comply with surgical regulations in some countries.
3. Opening of anterior pouch and completion of hysterectomy.
4. vNOTES debulking of uterus using an endo-knife followed by complete transvaginal removal of specimen using vaginal debulking.
5. Closure of the vagina.

**Results:** The specimen weighed 2.465 Kg. The operative time was 187 minutes from vaginal incision to vaginal closure. There were no intraoperative or postoperative complications. The blood loss was about 120 ml. The patient was discharged on the second day. The follow up at one month and 3 months after surgery was satisfactory.

**Conclusion:** Transvaginal endoscopic vision can be utilized to overcome the difficulties encountered during hysterectomy of large size uterus. Endoscopic knife can be utilised to debulk the specimen under the vNOTES view. This step ultimately allows easier transvaginal debulking and retrieval of the specimen. vNOTES is a feasible minimally invasive technique of hysterectomy for removal of large uteri. The endoscopic vision allows the surgeon to tackle the difficulties in removing a large specimen. Only surgical teams with significant experience in vNOTES should do such procedures.

**Key words:** hysterectomy; vNOTES; vaginal morcellation; large uterus

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**Disclosure statement:** The authors declare that they have no conflicts of interest and nothing to disclose.

Institutional review board has given an exemption to this study.

Corresponding author: Suyash Naval, DNB [navalsuyash@gmail.com](mailto:navalsuyash@gmail.com)

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