

Transvaginal natural orifice transluminal endoscopic surgery for gynaecological conditions: Initial Singapore experience

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Introduction

- Transvaginal route for natural orifice transluminal endoscopic surgery (vNOTES) is a novel minimally invasive surgical approach where surgeons access the pelvic cavity through the vagina using minimally invasive surgical instruments. vNOTES has been increasingly popular in the field of gynaecological surgery as it eliminates the need for incision and reduces the risk of incision related complications. Other potential benefits include lesser pain, shorter hospital stay and quicker post-operative recovery for the patient

Aim

- Our study aims to evaluate the initial experience with vNOTES in the largest tertiary gynaecological centre in Singapore.

Method

- All women who underwent vNOTES in our tertiary centre between April 2021 and May 2024 were included in this retrospective analysis
- Patient and perioperative data was extracted and analysed

Results

- Total of 215 underwent VNOTES procedure during study period, 187 out of 215 patients (87.0%) underwent hysterectomy
- Main indications for hysterectomy were fibroid (38.1%), endometrial hyperplasia (25.1%), and elongated cervix (18.6%)
- Two intra-operative conversion to laparoscopic surgery was needed, one due to difficulty to enter Pouch of Douglas due to dense adhesions and one due to concerns of a pelvic hematoma
- Average length of stay 1.6 days and pain score on POD 1 was 1.77
- Many patients (40%) were able to pass urine without a catheter on same day as surgery, while 56.3% were able to do so by the next day.
- There were five post-operative vault hematoma with two requiring interventional radiology drainage and three managed conservatively.

Population (n=215)	
Age	53.6± 10.6
BMI	25.7 ±5.2
Pre-operative Hb	12.6 ±1.6
Parity	2.00 ±1.14
History of vaginal delivery	173 (80.5%)
Previous C section	36(18.1%)

Table 1: Characteristics of patients undergoing vNOTE procedure

Population (n=215)	
Operative time (min)	98.5 ±38.1
Estimated blood loss (ml)	156.9 ±182.3
Length of stay (days)	1.65± 1.03
Pain score (POD1)	1.77 ±1.63
Intra-operative complications	1
Post-operative complications	5

Table 3: Perioperative and postoperative outcome of vNOTES

Conclusion

- Without the need for an abdominal incision and shorter operating times, patients experience less postoperative pain and quicker recovery and shorter hospital stay
- Our initial experience with vNOTES is similar to those findings published in tertiary care settings worldwide. vNOTES represent a safe alternative to conventional surgery and should be considered for suitable patients.

Procedure performed	
Hysterectomy +- salpingo-oophrectomy	187
Unilateral/bilateral salpingo-oophrectomy	28
Additional procedure performed	
Morcellation	12
Ovarian cystectomy	4
Omental adhesiolysis	7
Others*	12

Table 2: Procedure performed during vNOTES

*Other procedures performed include One excision of vaginal wall cyst, two frozen section staining, one I&D of right labial abscess, one repair of cystostomy, one repair of vaginal lacerations, two omentectomy, one left labial nodule excision and three sentinel lymph node biopsy