

# Trachélectomie Radicale par Laparoscopie Robot-Assistée

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# Trachélectomie Elargie : Quand?

**Patientes avec un désir de G**  
**IA2 et IB1 < ou= 2 cm (IRM)**  
**Carcinomes épidermoïdes +++ , glandulaires**  
**Absence d'embolies**  
**N-**



- **Voie vaginale (VRT) : 1994 → 900 procédures**
- **Sécurité carcinologique démontrée**
- **Morbidité similaire = parametrectomie proximale**
- **Fertilité préservée : 70% enfants nés vivants**
- **Voie abdominale open : résultats médiocres**

*Plante M, Gregoire J et al. the vaginal radical trachelectomy: an update of a series of 125 cases and 106 pregnancies. Gynecol Oncol 2011 2011*

*Rob L Skapa P et al. Fertility-sparing surgery in patients with cervical cancer. Lancet Oncol 2011*

## Fertility sparing surgery for treatment of early-stage cervical cancer: Open vs. robotic radical trachelectomy

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### ABSTRACT

**Objective:** To compare the open versus robotic surgical approaches and provide surgical outcome data on patients who have undergone radical trachelectomy (RT).

**Methods:** We retrospectively analyzed patients who underwent open (OET) or robotic radical trachelectomy (RRT) between September 2005 and June 2011. Tumor characteristics, perioperative, operative and obstetrical outcomes were analyzed.

**Results:** Thirty-seven patients with early stage cervical cancer that desired future fertility underwent attempted radical trachelectomy, and 32 patients (20 with IB1, 11 with IA2, and 5 with IA1 with LVSI/poorly differentiated histology) had successful completion of RT. Five (11 open/4 robotic) underwent conversion to radical hysterectomy secondary to close ( $\leq 5$  mm) endocervical margin ( $p = 0.08$ ). The median age at diagnosis was 38.9 years (range: 21–67), 10% were nulliparous, and 9 had a visible lesion. Twenty-five patients (68%) underwent OET and 12 (32%) underwent RRT. RRT was associated with less blood loss (425 mL vs. 500 mL,  $p = 0.001$ ) and decreased length of postoperative stay (1 vs. 6 days,  $p < 0.001$ ), with no difference in operative time or histopathologic outcomes. Twenty-three patients (62%) had no residual cervical disease on final pathology. Common long-term morbidities were irregular menstrual bleeding or amenorrhea (25%), cerclage erosion (13%), or cervical stenosis (3%). Although there was a higher rate of conversion to hysterectomy in the robotic surgery cohort, rates of serious morbidities among the cohorts were comparable (robotic: 17% vs. open: 24%,  $p = 0.70$ ). Fewer (6%) patients were able to attempt pregnancy and three have achieved pregnancy. The median time of follow up is 12.0 months (range 0.33–64.9 months); there are no documented recurrences.

**Conclusions:** RRT results in less blood loss and decreased length of hospital stay with no compromise in histopathologic outcomes.

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- Diminution des pertes sanguines ( $P < 0,05$ )
- Diminution du temps d'hospitalisation ( $P < 0,05$ )
- Diminution morbidité (58 Vs 13%  $P = NS$ )
- Pas assez de recul et effectif insuffisant pour la G (36%)

## Reproducibility and accuracy of robot-assisted laparoscopic fertility sparing radical trachelectomy

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### HIGHLIGHTS

- We compared robot-assisted laparoscopic and vaginal radical trachelectomy
- Robotic and vaginal trachelectomy were equally accurate for the cervical transection.
- The cervical cerclage was placed more exactly with the robotic approach.

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### ABSTRACT

**Objective.** To assess the accuracy and reproducibility of robot-assisted laparoscopic abdominal fertility sparing radical trachelectomy in women with early stage cervical cancer.

**Methods.** Relevant prospective clinical data from 13 consecutive women planned for robotic radical trachelectomy between 2007 and 2012 were compared with retrospective data from 12 consecutive women planned for vaginal radical trachelectomy between 2000 and 2007. The first follow-up on all women included a similar vaginal ultrasonographic measurement of the remaining cervical length and the position of the cerclage, enabling a direct comparison. Peri- and postoperative clinical data were evaluated.

**Results.** The remaining cervical length was equal between the robotic and vaginal procedures (mean 11 mm, range 8–13 mm; mean 11 mm, range 7–13 mm respectively,  $p=0.552$ ). The distance from the cerclage to the inner cervical os was significantly shorter and less variable in the robot group (robot mean 7 mm, range of 4–8 mm, vaginal mean 8 mm, range 7–11 mm,  $p=0.003$ ). Rejection of the cerclage ( $n=3$ ) and/or cervical stenosis ( $n=3$ ) was diagnosed in four women, all of whom in the vaginal group between one and 13 months after surgery.

**Conclusions.** Robotic trachelectomy is equally reproducible and accurate as the vaginal trachelectomy in terms of the remaining cervical length and results in a significantly more precise placement of the cerclage.

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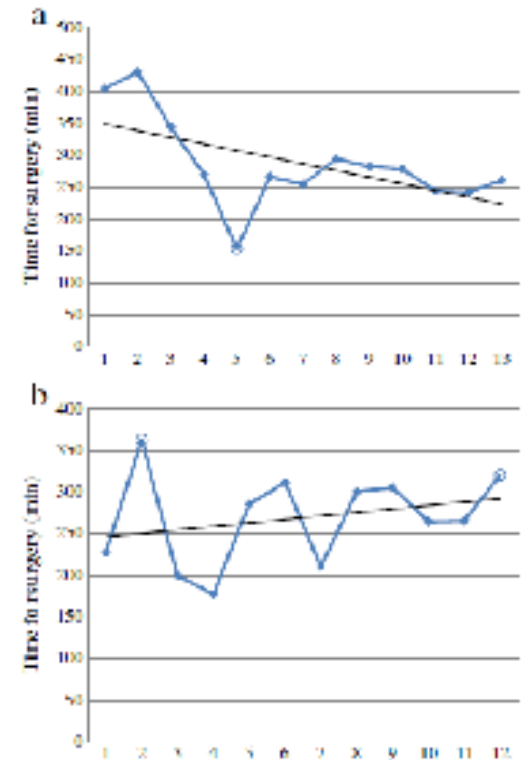


Fig. 3. a and b. Time for surgery in women operated with robot-assisted laparoscopic radical trachelectomy (Fig. 3a) and vaginal radical trachelectomy (Fig. 3b). □ Conversions to radical hysterectomy.

- Technique reproducible
- Diminution des pertes sanguines ( $P < 0.05$ )
- Diminution du temps d'hospitalisation ( $P < 0.05$ )
- Placement + précis du cerclage ( $P < 0.5$ )



## Reproductive and oncologic outcome following robot-assisted laparoscopic radical trachelectomy for early stage cervical cancer



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### A B S T R A C T

**Objective.** To investigate the reproductive and oncologic outcome following robotic radical trachelectomy for early stage cervical cancer.

**Methods.** All women with early stage cervical cancer planned for fertility-sparing robotic trachelectomy between December 2007 and April 2015 at two tertiary referral centers in Sweden were identified. Perioperative- and follow-up data was retrieved from prospective databases used for all robotic procedures at the respective institution and an additional review of computerized patient files was performed. Reproductive outcome evaluation was restricted to women with  $\geq 12$  months follow-up and an active wish to conceive. Oncological outcome was evaluated for all patients.

**Results.** Fifty-six women (3 stage IA1, 14 stage IA2 and 39 stage IB1) were included. The median age was 29 years (range 23–41). Median follow-up was 24 months (range 1–89). Seven trachelectomies were aborted in favor of a radical hysterectomy and/or chemoradiation due to nodal metastases or insufficient margins; two distant recurrences occurred in these women. A local recurrence was seen in two of the 49 women (4%) in whom the procedure was completed as planned. Seventeen of the 21 women (81%) in the reproductive follow-up group conceived - 16 naturally and one following IVF. Sixteen women (94%) delivered in the third trimester, 12 women (71%) in gestational week  $\geq 36$ . One (6%) second trimester delivery occurred.

**Conclusion.** The high fertility rate, low rate of premature deliveries and an acceptable rate of recurrence support the feasibility of robotic fertility-sparing radical trachelectomy in women with early stage cervical cancer.



# Oncological outcomes after fertility-sparing surgery for cervical cancer: a systematic review

Fuica Beatrice, Sebastian Gony, Amalour Munkul, Cyrus Changui, Alexandra Levy, Philippe Morice

Fertility preservation in young patients with cervical cancer is suitable only for patients with good prognostic factors and disease amenable to surgery without adjuvant therapy. Consequently, it is only offered to patients with early-stage disease (stage IB tumours <4 cm), negative nodes, and non-aggressive histological subtypes. To determine whether fertility preservation is suitable, the first step is pelvic-node dissection to establish nodal spread. Tumour size ( $\leq 2$  cm) and lymphovascular

surgical technique. In this system (Dargent's procedure, simple tra and laparotomic, laparoscopic six different fertility preservation patient or couple, and, above all, results for each procedure.

	Dargent's procedure	Simple trachelectomy or cone resection	Neoadjuvant chemotherapy plus conservative surgery	Abdominal radical trachelectomy		
				Laparotomic	Laparoscopic	Robot assisted
<b>Series and case reports</b>						
Number series or case reports*	21	13	17	28	18	9
Number of patients	1523	242	334	866	232	101
Patients excluded†	359	11	35	206	14	11
<b>Tumour characteristics</b>						
<b>Stage‡</b>						
IA	316	Not included	0	153	95	25
IB1	All	All	85	559	225	54
> 2 cm	At least 84	0	At least 57	At least 167	At least 47	Minimum
IB2	3	0	25	19	2	1
IIA	9	0	3	4	1	0
<b>Tumour type</b>						
Squamous-cell carcinoma	897	60	70	549	197	37
Adenocarcinoma	432	25	41	368	50	29
Other, mixed, or unknown	199	157	3	44	35	35
LVI‡ positive	401	At least 71	Unknown	At least 298	At least 51	At least 5
<b>Oncological outcomes</b>						
Recurrent disease	58	4	6 or 25	31	15	2
Died from disease	24	0	2	9	3	0
<b>Fertility outcomes</b>						
Pregnancies	487	305	54	175	95	20
Fetal loss (trimester 1 or 2)	103	15	11	37	16	2
Intrauterine delivery	304	13	11	21	19	3
Pregnancy rate§	316/343 (92%)	15/16 (94%)	27/39 (69%)	114/135 (84%)	75/57 (132%)	17/71 (24%)

LVI—lymphovascular space involvement. †In the case of repeated publications by the same team or on the same topic, only the largest or most complete was included in the analysis. ‡Positive nodal status or margin or other reasons contraindicating fertility-sparing surgery, or patients with only fertility results reported. ††For some procedures the disease stage is unknown. ‡‡Whether one patient with recurrent disease received neoadjuvant or adjuvant chemotherapy is unclear. §Determined from series with complete data and based on the total number of patients attempting to become pregnant and the number succeeding.

Table 1: Main characteristics and results for six different fertility-sparing surgery approaches for patients with cervical cancer