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Systematic nerve sparing during surgery for deep-infiltrating posterior endometriosis improves immediate postoperative urinary outcomes

Michelle Soares ¹ (MD, PhD), Myriam Mimouni ¹ (MD), Anne Oppenheimer² (MD), Krystel Nyangoh-Timoh ³ (MD, PhD), Joseph du Cheyron ¹, Arnaud Fauconnier ¹,² (MD, PhD)

¹Department of Gynecology and Obstetrics, Centre Hospitalier Intercommunal de Poissy-Saint-Germain-en-Laye, Poissy, France
²EA 7285 Research Unit ‘Risk and Safety in Clinical Medicine for Women and Perinatal Health’, Versailles-Saint-Quentin University (UVSQ), 78180 Montigny-le-Bretonneux, France
³Department of Gynecology and Obstetrics, Centre Hospitalier Universitaire de Rennes Cedes, France
Corresponding author: Dr. Michelle SOARES, Department of Gynecology, Cliniques Universitaires St. Luc, 1200 Brussels, Belgium
e-mail: michelle.soares@uclouvain.be

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Precis:

Systematic nerve sparing during surgery for deep-infiltrating posterior endometriosis improves immediate postoperative urinary outcomes, reducing the need for self-catheterization without increasing operating time or complication rates.
Abstract:

**Study Objective:** Evaluate the feasibility and risk/benefit ratio of systematic nerve sparing by complete dissection of the inferior hypogastric nerves (IHNs) and afferent pelvic splanchnic nerves during surgery for deep-infiltrating endometriosis (DIE) based on complication rates and postoperative bladder morbidity.

**Design:** Observational before (2012-2014) and after (2015-2017) study based on a prospectively completed database of all patients treated medically or surgically for endometriosis.

**Setting:** Unicentric study at the Centre Hospitalier Intercommunal de Poissy-St-Germain-en-Laye.

**Patients:** This study includes patients undergoing laparoscopic surgery for DIE (Pouch of Douglas resection with or without colpectomy or bilateral uterosacral ligament (USL) resection) with complete excision of all identifiable endometriotic lesions, with or without an associated digestive procedure, between 2012 and 2017. Exclusion criteria include prior history of surgery for DIE or colorectal DIE excision, unilateral USL resection and bladder endometriotic lesions.

**Interventions:** For patients in group 1 (2012-2014, n=56), partial dissection of the pelvic nerves was carried out, only if they were macroscopically caught in endometriotic lesions, without dissection of the pelvic splanchnic nerve. Patients in group 2 (2015-2017, n=65) systematically underwent nerve sparing during DIE surgery, with dissection of the IHNs and pelvic splanchnic nerves.

**Measurements and Main Results:** Both groups were comparable in terms of patient age, parity, body mass index and previous abdominal surgery. Operating time was similar in both groups (228 ± 105 minutes in group 2 vs 219 ± 71min in group 1), as were intra- and postoperative complication rates. Time to voiding was significantly longer in patients in group 1 (p<0.01), with 7 (12.9%) patients requiring self-catherization in this group compared to no patients (0%) in group 2. Duration of self-catherization for the 7 patients in group 1 was 28, 21, 3, 60, 21, 1 (stopped by the patient) and 28 days respectively. Uroflowmetry on postoperative day 10 was abnormal in 5/25 patients in group 1 compared to 1/33 in group 2 (p=-0.031).

**Conclusion:** Systematic and complete nerve sparing, including pelvic splanchnic nerve dissection during surgery for posterior DIE, improves immediate postoperative urinary outcomes, reducing the need for self-catheterization without increasing operating time or complication rates.
Keywords: Endometriosis, deep-infiltrating endometriosis, nerve sparing, urinary outcomes, bladder dysfunction.
**Introduction:**

A better anatomical understanding of the pelvic autonomic system has led to the development of nerve-sparing techniques during pelvic surgery, yielding decreased postoperative morbidity. This technique has become standard procedure in radical surgery in many oncological centers (1-6), improving quality of life without compromising treatment or survival outcomes (7-8). Positive outcomes in oncological settings have resulted in the adoption of nerve-sparing approaches in surgery for deep-infiltrating endometriosis (DIE).

DIE is often detected on or around the recto-vaginal septum and uterosacral ligaments (USLs). Excision of these endometriotic nodules involves surgical procedures that can potentially cause injury to the pelvic autonomic nerves in the presacral and pararectal spaces governing bladder, rectal and sexual function control. Nerve sparing for DIE aims to preserve these nerves, namely the inferior hypogastric nerve (IHN), inferior hypogastric plexus (IHP) and the pelvic splanchnic nerves (PSNs).

The IHN originates from the superior hypogastric plexus (SHP), arising from the para-aortic sympathetic trunk, and carries fibers responsible for relaxation of the bladder detrusor muscle and urethral sphincter contraction, promoting urinary continence (9, 10). It emerges from the SHP at the level of the sacral promontory, follows an anterior and distal route lateral to the hypogastric fascia, and merges with PSNs to form the IHP situated in the pararectal space.

The PSNs are thin parasympathetic branches derived from sacral nerve roots (S2-S4) before they cross the internal iliac artery. They run anteriorly and distally and join the IHP with the IHN at the lateral part of the USLs. These PSNs stimulate bladder contraction, so their injury can result in bladder atony (10, 11).

Laparoscopic nerve sparing adapted to the multifocal and infiltrating properties of DIE has proved feasible, reducing bladder morbidity and enhancing patient satisfaction (12, 13). However, questions persist regarding the risk-benefit ratio of systematic nerve sparing during
surgery for DIE, particularly with respect to the PSNs, which are deep pelvic structures close to the venous trunk and pelvic sidewall. Since 2015, we have implemented a systematic pelvic nerve-sparing strategy that involves complete bilateral dissection of IHNs and PSNs, before resection of DIE lesions (12).

The aim of this study was to evaluate the feasibility and risk-benefit ratio of systematic nerve sparing by dissection of the IHP and afferent nerves during surgery for DIE, based on complication rates and postoperative bladder morbidity.
**Material and Methods:**

Study design

This was an observational before-and-after study conducted in the department of gynecology and obstetrics at Poissy University Hospital (CHIPS). Since 2012, all patients treated surgically for endometriosis at CHIPS have been prospectively included in the database, with a minimum one-year follow-up. Our work complied with French regulations that authorize epidemiological surveys without the need for ethics committee approval. The study was exempt from French law on biomedical research (Huriet-Sérusclat law, 20 December, 1998), as no additional interventions were required.

Inclusion criteria

Between 2012 and 2017, patients aged over 18 years undergoing laparoscopic surgery for DIE with complete excision of all identifiable endometriotic lesions were enrolled. Figure 1 shows preoperative MRI assessment of 2 patients as an example.

Surgical approaches included radical Pouch of Douglas resection or USL resection with possible colpectomy and/or a digestive procedure (rectal shaving, rectal discoid resection or colorectal resection). Subjects with a previous history of surgery for DIE or colorectal DIE excision, unilateral USL resection or bladder lesions/resection were excluded from this study.

In our department, nerve sparing during surgery for DIE has been systematically performed since January 2015. Prior to that, dissection of the IHN/IHP was only carried out ‘on demand’, when caught in endometriotic lesions. For this reason, the study population was divided into two groups:

Group 1: Patients who underwent surgery without systematic nerve sparing. In this group, nerve dissection was performed during surgery only when the surgeon suspected that the lesion was infiltrating the IHP. PSNs were not specifically individualized in this group.
Group 2: Patients who underwent surgery with systematic nerve sparing of the IHP, IHN and PSN.

Surgical procedure

Laparoscopy was carried out by or under the close supervision of an experienced gynecological surgeon (AF) with a keen interest in pelvic innervation. The reverse technique for Pouch of Douglas resection applied to all procedures is well established in the department since 2008, with the exception of systematic nerve sparing. Since 2011, limited rectal procedure is performed whenever possible. Between 2008 and end 2011, the said surgeon has performed more than 150 laparoscopic procedures for posterior DIE excision using this technique. When bowel resection was indicated, it was performed by an experienced colorectal surgeon. Surgery was carried out with an indwelling Foley catheter, that was left in place for 1-2 days post-operatively, until the patient was able to mobilize correctly and reach the toilet independently.

All patients benefited from an En Bloc Cul-de-Sac resection performed in a standardized manner following the “reverse technique” (14,15) that was slightly modified.

- The dissection started laterally, with the opening of the normal pelvic peritoneum. Depending on the lateral extent of the endometriotic lesions, this step involved the opening of either the lateral pararectal (or Latzko) space i.e. lateral to the pelvic ureter with identification of the crossing of the ureter and the uterine artery, or the medial pararectal (or Okabayashi) space i.e. medial to the pelvic ureter and parallel to the involved USLs.

- Parametrial dissection varied according to the lateral extent of lesions, with surgical maneuvers like resection of peritoneum of the ovarian fossa, ureterolysis, “uncrossing of the uterine artery and the ureter” and/or resection of the uterine artery when required.

- In the next step, a transverse incision was made across the posterior uterine isthmus, with a central reverse intrafascial dissection down the posterior cervix mobilizing the torus
uterinum (i.e the small transverse thickening that binds the original insertion of the USLs on the posterior wall of the uterus) and the anterior insertion of the USLs before pursuing towards the rectovaginal septum. In case of mucosal involvement, the vagina was entered and a partial colpectomy was performed.

- The final step consisted in a retrograde dissection of the mesorectum with the resection of the lateral and posterolateral rectal stalk (16,17). Based on the extent of rectal infiltration, removal of the endometriotic mass from the bowel involved either rectal shaving, discoid resection or segmental resection procedure.

Nerve-sparing procedure:

For patients benefitting from the nerve sparing procedure, additional steps included:

- Dissection of the pararectal fossae after opening of the lateral pelvic peritoneum to identify, from cranial to caudal, the uterine artery, ureter, and deep uterine vein (Figure 2). Below this latter landmark and along the mesorectum, we can observe the PSNs posterolaterally and the IHP antero-medially.

- Identification of the IHN as follows: after anterior mobilization of the uterus and of the proximal mobilization of the USL, we visualize a stretched string beneath the peritoneum, running from the promontory to the pararectal fossae (Figure 3). Along its course, the IHN is localized medially to the ureter and the USL and is more easily identified on the right (9). When not detected along its normal pelvic course as above because of Pouch of Douglas obliteration, the IHN can be dissected at the level of the promontory (at its origin, the SHP). The peritoneum is opened at the lateral limit of the mesorectum after traction of the rectum towards the contralateral side. The IHN is then dissected and preserved.

Once the IHP, IHN and PSNs have been identified, the endometriotic lesions can be resected. The goal is to spare as many nerve fibers as possible, in the knowledge that some cannot always be saved because of endometriotic nerve entrapment.

Data collection
Data on patient age, parity, body mass index (BMI), previous laparoscopy or laparotomy, operating time and hospital stay were collected. The different surgical steps performed were recorded postoperatively and included in the database. Parametrial involvement per se was not specifically mentioned but surgical steps including ureterolysis, uncrossing of the uterine artery and IHP involvement, that indirectly reflect parametrial involvement, were recorded as recommended (18).

Information on recovery of bladder function, need for and duration of self-catheterization if required, as well as intra- and early postoperative complications was also prospectively recorded in a computerized database.

Complications were classified according to Clavien-Dindo (19), with those of grade 2 or more requiring medical or surgical treatment other than painkillers, antiemetics, laxatives, etc. Common immediate postoperative symptoms like mild/moderate abdominal pain or constipation were not considered in this analysis.

Concerning postoperative urinary function, time to voiding was calculated as the sum of days of urinary catheterization, plus the number of days of required self-catherization. Postoperative bladder function was evaluated by spontaneous ability to void and the measurement of post-voiding residue (PVR). Bladder function was considered normal when two consecutive PVR measurements of < 100 ml were obtained for significant miction volumes.

Voiding dysfunction was diagnosed when PVR was either ≥100 ml for significant miction volumes or superior to miction volume at repeated measures more than 72 hours post-surgery. In this case, patients were instructed on how to perform self-catheterization before discharge.

For a subgroup of patients, more specifically in patients having had more extensive surgeries (or with parametrial infiltration) and/or when there were some post-operative miction difficulties, uroflowmetry analysis was also performed around 10 days after discharge. Voiding function was considered abnormal if PVR was ≥ 100 ml for significant miction
All patients were clinically evaluated 4-6 weeks and one year after surgery, including a pelvic examination, questionnaire on subjective well-being, and postoperative complications.

Statistical analysis:

Group 1 and 2 were compared in an intention-to-treat analysis. Continuous or quantitative variables were compared using Student’s t-test while chi-square was applied for comparison of categorical variables (SPSS 22 program, IBM).

Results:

Between 2012 and 2017, 121 patients were included in this study, 56 in group 1 and 65 in group 2. Mean patient age, BMI, parity and number of previous abdominopelvic procedures did not differ between the 2 groups (Table 1). As shown in Table 2, mean operating time did not significantly differ between the two groups either. Moreover, 31 subjects in group 1 (~55%) and 29 subjects in group 2 (~44%) underwent an associated digestive procedure involving bowel shaving or resection (discoid or segmental) for bowel endometriosis, as detailed in Table 2. Surgical steps indirectly reflecting parametrial involvement (ureterolysis and uncrossing of the uterine artery) are also shown in Table 2.

For patients in group 1, the IHN was identified unilaterally and bilaterally in 9 and 26 cases respectively, while the IHP was identified in 6 cases unilaterally and 7 cases bilaterally. Hospitalization time was slightly shorter (-0.77 days, p=0.04) in the systematic nerve-sparing group (group 2) than in group 1. None of the patients required blood transfusion during surgery. Concerning perioperative complications, 2 were reported in group 1 (uterine perforation and unforeseen bowel opening requiring suture) compared to 3 in group 2 (uterine perforation, pleural opening in a case of diaphragmatic endometriosis and partial section of the right IHN). As detailed in Table 2, postoperative complication rates were similar and grade 3 complications needing reintervention were infrequent in both groups. In group 1, one patient underwent repeat surgery for a latero-rectal hematoma, while another developed
pelvic peritonitis on a post-coital vaginal scar dehiscence 2 months after surgery. In group 2, one patient presented with hemoperitoneum and required re-intervention, while a second patient developed sepsis after a gauze pad was inadvertently left in place intra-vaginally. Other complications in the two groups included urinary infection, pyelonephritis, Clostridium difficile enterocolitis, and dehiscence of a trocar opening.

Concerning postoperative urinary function, time to voiding was significantly longer for subjects in group 1 (p<0.01). As seen in Table 3, patients in the systematic nerve-sparing group (group 2) showed swifter recovery of voiding function, with none of them needing self-catheterization. On the other hand, 7 (12.9%) patients required self-catheterization in group 1 without nerve sparing. The number of days of self-catheterization of the 7 patients in group 1 was 28, 21, 3, 60, 21,1 (stopped by the patient) and 28 respectively. At one month postoperatively self-catheterization was required by just 1 woman in group 1 (vs 0 in group 2) and this difference is no longer clinically relevant. None of the patients in this study needed self-catheterization beyond 60 days postoperatively.

Day 10 uroflowmetry data were available and interpretable for 25 patients in group 1 and 33 patients in group 2 and should be considered as a sensitivity analysis on a subgroup of women from the study population who had a uroflowmetry testing. According to fixed cut-offs, 5 patients in group 1 presented with abnormal uroflowmetry at day 10, while just 1 of the 33 patients in group 2 showed abnormal values.

All patients underwent a check-up 4-6 weeks and 1 year after surgery, with a clinical examination and questioning. At one month, 12 of the 56 patients in group 1 presented with abnormal bladder/voiding sensations, 5 of whom still had urinary sensation complaints at 1 year. In group 2, these symptoms were encountered in 7 of 65 patients at 1 month, with only 1 out of 6 (1-year data not available for 1 patient) experiencing persistent problems at 1 year.

Discussion:
In this study evaluating the risk-benefit ratio of systematic nerve sparing including PSN dissection during surgery for posterior DIE, we confirm the advantage of nerve sparing in terms of early postoperative voiding function without increase in operating time nor peri- or postoperative complication rates. However, no relevant and statistically significant differences were observed over 1 month postoperatively.

Surgery for DIE exposes patients to the risk of sequelae, among which urinary dysfunction is the most common, corresponding to de novo voiding dysfunction in 1.4 to 29% of cases (20, 10). Even one-sided radical parametrial dissection or segmental bowel resection may lead to bladder dysfunction (9), which seriously affects quality of life (21).

After its success in decreasing postoperative morbidity in radical oncological procedures, nerve sparing has been adopted for the surgical management of endometriosis, reducing the risk of urinary retention due to iatrogenic injury to pelvic autonomic nerves. Volpi et al were the first to demonstrate the feasibility of laparoscopic identification of pelvic nerves during surgery for DIE back in 2004. Later, in a study of patients undergoing nerve-sparing laparoscopic surgery for endometriosis with bowel resection, Landi et al reported a shorter time to resumption of voiding function with greater postoperative patient satisfaction compared to a control group (12), despite a higher number of intraoperative blood transfusions in the nerve-sparing group. Another team also recorded fewer mean self-catheterization days (39.8 days) in patients undergoing nerve-sparing radical excision of pelvic endometriosis with segmental bowel resection compared to the non-nerve-sparing group (121 days), with no increase in intra-or postoperative complications (13). Almost 40 days of self-catheterization is nevertheless a long time and contributes to decreased quality of life in patients following surgery. A recent meta-analysis evaluating the risk of urinary retention at discharge and 90 days after surgery revealed statistically significant benefit in mid-term postoperative voiding without significant decrease in the relative risk of the need for self-catheterization at discharge (22).
The reversibility of early/mid-term voiding dysfunction could potentially be explained by neuropraxia resulting from local ischemia, traction, mild crush/compression due to tissue manipulation, use of energies etc. or by neuronal regeneration following sectioning of small nerve fibers of the inferior hypogastric plexus for example. Identifying the nerves before excision of endometriotic lesions seems to be protective whichever the mechanism, thereby improving short/mid-term urinary outcomes. This leads to quicker patient recovery, lighter post-operative care and better quality of life.

The major difficulty of comparing postoperative voiding dysfunction rates in different studies lies in the lack of a unanimous definition of the concept, variously described as urinary retention, bladder atony, voiding dysfunction calling for intermittent bladder catheterization (7 days postoperatively) (20, 23), and the lack of consensus about what constitutes a normal/abnormal PVR (24,25,26). Similarly, the definition of ‘transitory’ voiding dysfunction differs and may refer to self-catheterization of less than 30 days or 6 weeks, between 3 weeks and 6 months, and so on.

One of the limits of our study is the absence of long-term follow up. Besides, patients with subjective abnormal voiding sensations at one year did not undergo objective urodynamic testing. However, although this could have been interesting on a scientific point of view, there is currently no recommendation to perform this examination in this context, as it is uncomfortable and does not help improve patient outcome.

It should be noted that in our control group, partial nerve sparing was performed in certain patients, but only when it was obvious that pelvic nerves were invaded by endometriotic lesions. This was not the case in other previous studies (9, 13, 20, 22) and may partially explain the lower bladder morbidity rate obtained in our control group (12.5% of self-catheterization at discharge and no long-term self-catheterization) compared to the 34% in the study by Kavallaris et al., with 14% of their patients still requiring intermittent self-catheterization 6 years after surgery (27). Results from 2 studies conducted in French tertiary referral centers reporting surgery for bowel endometriosis without systematic nerve sparing
show rates of postoperative voiding dysfunction with the need for self-catherization of 11.3% (median self-catheterization duration: 30 days; range 15-180 days) (23) and 15% (28) respectively. In another large series laparoscopic DIE excision by the shaving technique with use of a CO2 laser but without systematic nerve sparing, urinary retention rates after surgery were very low (0.8% in a series of 500 cases) (29). Comparisons are difficult given the different surgical DIE excision techniques as well as different energy sources used. The use of CO2 laser (30,31) or plasma jet (32) for example are known to induce low thermal diffusion and less collateral damage during dissection and could prove beneficial in preventing further collateral pelvic nerve injury. Furthermore, some experienced teams, even if nerve sparing is not specifically mentioned, usually perform conservative surgery and avoid unnecessary dissection in the depth of parametria. The significant difference in immediate postoperative bladder function between the groups with and without systematic nerve sparing in our study however leads us to believe that with the surgical technique used, systematic visualization of the pelvic innervation, and particularly PSN, is effective.

Indeed, dissection of the pelvic nerves before endometriotic lesion excision reveals the relationship between lesions and pelvic innervation, thereby reducing the risk of nerve injury, whether by minimizing the risk of neuropraxia or by allowing as many nerve fibers as possible to be spared in case of partial neural invasion of the hypogastric plexus for example. It also serves to prevent inadvertent resection of pelvic innervation when fibers are not directly affected but lie close to lesions. In cases where endometriotic lesions are deeply embedded in the parametrium and where nerve sparing is not feasible except in unilateral involvement, preservation of even a few nerve fibers is, in our opinion, beneficial to the resumption of bladder function.

Classically, PSNs are described as parasympathetic nerves involved in bladder contraction, but anatomical studies have reported multiple sympathetic fibers within PSNs (33). Moreover, a physiological study found that selective stimulation of PSNs increased intravesical pressure and did not differ from IHP stimulation (34). Even if the specific function
of PSNs still remains unclear, PSN sparing should have a positive impact on postoperative bladder function.

Pelvic nerve identification and dissection could however itself potentially lead to nerve trauma or unintentional nerve sectioning, so it requires thorough knowledge of the pelvic anatomy and good surgical skills. This procedure should therefore be performed by trained surgeons who have mastered the technique in reference centers, as suggested by our results.

In our experience, and when carried out by skilled surgeons, this nerve-sparing procedure takes around 15 additional minutes, depending on the degree of infiltration of lesions, and makes up for those extra minutes by facilitating the next surgical steps. It does not therefore impact the duration of the already lengthy DIE surgery. Our data, like those of previous studies, show no increase in operating time associated with nerve sparing. Furthermore, perioperative and postoperative complication rates are not elevated. Postoperative complication rates in our series are as expected lower than those reported by other experienced teams after laparoscopic management of colorectal endometriosis (28, 23, 35, 36), but higher than in studies looking into endometriosis without rectal or urinary (37, 38) involvement. These variable complication rates are related to different DIE lesion size, the severity and rate of additional resected lesions as well as the technique adopted for colorectal DIE excision (shaving or discoid/segmental resection) (39).

**Conclusion:**

Our results suggest that systematic nerve identification during laparoscopic surgery for DIE is favorable for preserving bladder function, with decreased rates of early postoperative bladder dysfunction (< 1 month) and self-catheterization at discharge. Furthermore, this procedure is not time consuming and is safe, without any increase in peri- or postoperative complication rates.

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Conflict-of-interest disclosure: The authors declare no competing financial interests
References:


Figure legends:

Figure 1: Preoperative MRI assessment of 2 patients:

(i) Patient 1 (A-B): posterior DIE with obliteration of the Douglas Pouch, utero-sacral, lateral parametrial as well as digestive involvement.

(ii) Patient 2 (C-D): posterior DIE with utero-sacral, torus, vaginal and digestive involvement.
Figure 2: Laparoscopic view of the left (L) pararectal fossa

Nerve preservation by (A) systematic opening of the para-rectal fossa, (B) identification of the inferior hypogastric plexus (IHP) and (C) the pelvic splanchnic nerves (PSNs) described in the manuscript, before resection of the endometriotic lesions.

Figure 3: Preservation of the inferior hypogastric nerve (IHN)

Identification of the HN as a stretched string beneath the peritoneum, running from the promontory to the pararectal fossa (A). Opening of the peritoneum at the lateral limit of the mesorectum after traction of the rectum towards the contralateral side in order to identify and dissect the IHN (B) before resection of the endometriotic lesions.
### Table 1: Main characteristics of the study population

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<td>31 (55%)</td>
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Table 2: Perioperative and early postoperative data

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<td>31 (55,3%)</td>
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<td>- Bilateral</td>
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<td>10 (17,8)</td>
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<td>Days to discharge (n, M ± SD)</td>
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<td>Postoperative complications* (n (%))</td>
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<td>0.56</td>
</tr>
<tr>
<td>Grade 3 with reintervention</td>
<td>3 (5.4%)</td>
<td>2 (3.1%)</td>
<td>0.55</td>
</tr>
</tbody>
</table>

USLs= uterosacral ligaments, min = minutes

* Grade 2 and above, as classified by Clavien-Dindo, and other than urinary retention.
<table>
<thead>
<tr>
<th></th>
<th>Group 1 (2012-2014) n=56</th>
<th>Group 2 (2015-2017) n=65</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urinary catheterization (days, M ± SD)</td>
<td>1.96 ± 1.23</td>
<td>1.29 ± 0.7</td>
<td>≤0.01</td>
</tr>
<tr>
<td>Self-catheterization (n(%))</td>
<td>7 (12.9%)</td>
<td>0 (0%)</td>
<td>≤0.01</td>
</tr>
<tr>
<td>&lt;1 month</td>
<td>6</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>1-12 months</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>&gt; 12 months</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Duration of RUV* measurement during hospitalization</td>
<td></td>
<td></td>
<td>0.03</td>
</tr>
<tr>
<td>&lt;24h (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24-48h (%)</td>
<td>80.85%</td>
<td>90.48%</td>
<td></td>
</tr>
<tr>
<td>&gt;48h (%)</td>
<td>2.13%</td>
<td>6.35%</td>
<td></td>
</tr>
<tr>
<td>Abnormal uroflowmetry on day 10 (n %)</td>
<td>5/25 (20%)</td>
<td>1/33 (3%)</td>
<td>0.031</td>
</tr>
<tr>
<td>Abnormal bladder/voiding sensation at 1 month (n)</td>
<td>12/55</td>
<td>7/61</td>
<td>0.065</td>
</tr>
</tbody>
</table>

* RUV: residual urinary volume