Anatomic and functional results of laparoscopic–perineal neovagina construction by sigmoid colpoplasty in women with Rokitansky’s syndrome

Emile Darai¹,⁴, Olivier Toullalan¹, Olivier Besse², Lucien Potiron³ and Patrice Delga³

¹Service de Gynécologie, Hôpital Tenon Paris, AP-HP, ²Clinique Notre-Dame de Grâce, Nantes and ³Clinique Mutualiste de Nantes, France

To whom correspondence should be addressed. E-mail: emile.darai@tnn.ap-hop-paris.fr

BACKGROUND: The Mayer–Rokitansky–Kuster–Hauser (MRKH) syndrome is a rare congenital cause of primary amenorrhea, due to utero-vaginal agenesis. Several surgical techniques have been used to create a neovagina. Neovagina construction with a sigmoid graft appears to be the best option, as it offers adequate length and natural lubrication, allowing early intercourse. However, few data are available on the complications, anatomic and functional results of laparoscopic–perineal neovagina construction by sigmoid grafting. METHODS: From September 1995 to November 2002, seven women with the MRKH syndrome underwent laparoscopic–perineal neovagina construction by sigmoid colpoplasty. RESULTS: The mean operating time was 312 min (range 220–450 min). The mean fall in haemoglobin was 3.6 g/dl (range 2–4.4 g/dl). Blood transfusion was never necessary. The only perioperative complications were one urinary tract infection and one vulvar haematoma not requiring drainage. The mean hospital stay was 7.7 days (range 6–12 days). The mean length of the neovagina was 11.5 cm (range 7–15 cm), and no shrinkage occurred during follow-up. The neovaginal introitus admitted two fingers in breadth in five of the seven patients. Dilation of the introitus was required in the other two women. None of the four women who had intercourse experienced dyspareunia or discomfort. CONCLUSION: Our results confirm the feasibility of laparoscopic–perineal neovagina construction by sigmoid colpoplasty, when performed by surgeons with extensive experience in both gynaecological and gastrointestinal laparoscopic surgery. The anatomic and functional results were good.

Key words: laparoscopy/neovagina/Rokitansky’s syndrome/sigmoid transplant/vaginal agenesis

Introduction

The Mayer–Rokitansky–Kuster–Hauser (MRKH) syndrome is a rare congenital cause of primary amenorrhea, due to utero-vaginal agenesis; some patients also have ectopic kidneys or renal agenesis, and skeletal and auditory abnormalities. The prevalence ranges from 1 in 4000 to 1 in 10 000 births (Evans et al., 1981; ACOG, 2002).

The most common non-surgical technique used to create a vagina is Frank’s method, which requires long-term catheterization (Frank, 1938). The Vecchietti technique, a laparotomic surgical variant of Frank’s method, has been widely used for many years (Vecchietti, 1965). A laparoscopic variant of the Vecchietti operation was described recently, in which a neovagina is created by dilation over 7–9 days; a functional neovagina is obtained within 6 months, but its depth is often limited (Fedele et al., 1994).

Several surgical procedures based on intestine transplantation or skin grafting have been developed for neovagina construction (Baldwin, 1904; McIndoe and Banister, 1938). The McIndoe technique (McIndoe and Banister, 1938) using skin grafting has the advantage of avoiding the complication of intestinal surgery, with anatomic success ranging from 57 to 91%. The advantages of intestinal transplant methods include adequate vaginal length, natural lubrication, early coitus and a lack of shrinkage (Louis-Sylvestre et al., 1997); the main disadvantage is the need for laparotomy. The first case of sigmoid colpoplasty by a laparoscopic–perineal approach was described recently by Delga and Potiron (1997). The feasibility of the laparoscopic approach has only been demonstrated so far in isolated case reports (Ikuma et al., 1997; Darai et al., 2002; Ota et al., 2000; Thoury et al., 2003), and few data are therefore available on the anatomic and functional results. We conducted a preliminary study designed to evaluate the perioperative complications and anatomic and functional results of sigmoid colpoplasty by the laparoscopic–perineal approach in seven women with MRKH syndrome.

Methods

From September 1995 to November 2002, seven patients aged from 17 to 32 years (mean 21 years) with MRKH syndrome underwent…

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neovagina construction by means of sigmoid coloplasty via the laparoscopic–perineal route.

**Patients**

All the patients had primary amenorrhea. Diagnostic criteria for the MRKH syndrome were normal external genitalia, normal secondary sexual characteristics, vagina agenesis and an absent or rudimentary uterus. Five of the seven women had undergone laparoscopy to confirm the diagnosis. Four women had bilateral eutopic kidneys, while two had left kidney agenesis and one had a right pelvic kidney and a eutopic left kidney.

All the women were informed of available procedures, including Frank’s method and laparotomic sigmoid vaginoplasty. They were also informed that the laparoscopic approach had only been described in a few case reports, and that conversion to laparotomy might be necessary. The mean interval between the diagnosis of MRKH syndrome and surgical treatment was 60 months (range 3–189).

Inferior mesenteric arteriography was performed in five women to determine the number and locations of sigmoid arteries.

Sigmoid coloplasty was the first procedure used for vaginal construction in six cases, while one woman had already undergone unsuccessful neovagina creation by laparotomic–perineal cleavage.

**Surgical procedure**

Pre-operative preparation consisted of a thorough bowel cleaning programme based on a low-fibre diet and a colon enema the day before surgery. Antibacterial chemoprophylaxis (2 g of cefazolin i.v.) was given at the beginning of the operation. The laparoscopic procedure was performed in the modified dorsolitohotomy position under endotracheal general anaesthesia.

A Veress needle was inserted through the umbilicus and the abdomen was insufflated with CO₂. After pneumoperitoneum induction and insertion of the videolaparoscope through the umbilicus, three suprapubic trocars, including one of 12 mm, were introduced for ancillary instruments (Karl Storz, Tuttingen, Germany). After exploration of the pelvic cavity to confirm the MRKH syndrome, the sigmoid was examined by transillumination to verify its vascularization, and its length was determined before mobilizing the sigmoid. Inferior mesenteric arteriography was performed in five women to verify the intestinal graft up to the inferior mesenteric artery, and to determine and insert the videoendoscope in the sigmoid, clamps were used to assess the vascularization of the sigmoid transplant before sectioning the rectum and the upper part of the sigmoid with an endo GIA 35 (Auto Suture, Tyco S.A., Elancourt, France). The sigmoid transplant was 10–15 cm long and remained vascularized by the inferior sigmoid artery. After left iliac or suprapubic trocar withdrawal, the incision was enlarged to 3 cm to allow the descending colon to be exteriorized and a purse to be created for the anvil, using Purstring 65 (Auto Suture). The colon was placed in the pelvic cavity before closing the abdominal incision. Then, an end-to-end colorectal anastomosis was created using a rectally introduced CCEA 31 forceps (Auto Suture).  Perineal cleavage up to the vestigial lamina between the bladder and rectum was performed using a perineal H or inverted U incision. The peritoneal opening was created under laparoscopic guidance. The sigmoid transplant was then lowered through the perineal cleavage to perform a colon–perineal anastomosis with interrupted absorbable sutures of Polyglactin 3-0 (Ethicon, Neuilly, France).

At the end of the perineal phase, the pelvis was re-evaluated, through the laparoscope, to confirm vascularization of the sigmoid transplant and to perform pelvic lavage. To prevent prolapse of the sigmoid transplant, the mesenteric defect was closed with the intestinal graft and its mesentery on the left side. No vaginal prosthesis was used.

Five of the seven procedures were performed by the same surgeon (E.D.), one by P.D. and L.P., and one by O.B.

The standard analgesic regimen comprised acetaminophen, oral non-steroidal anti-inflammatory drugs (NSAIDs) and morphine. An infusion of 2 g of propacetamol (Prodafalgan) and 100 mg of ketoprofen (Profen®) was started 30–60 min before completion of surgery and was repeated every 6 h for 24 h. In the recovery room, the assistant anaesthetic nurse asked the patients to evaluate their pain every 5 min, using a 10-point scale (0 = no pain, 10 = unbearable pain) that had been explained to them earlier. If the score was 4 or more, intravenous boluses of 2 mg of morphine were injected every 5 min until the score fell below 4. The dose of i.v. morphine required in the recovery room was used to calculate the dose of subcutaneous morphine to be administered on the ward. The nursing staff on the ward asked the patients to assess their pain every 4 h, using the same scale. Total morphine requirements at wake-up and during the first 24 h post-operatively were calculated. Parenteral analgesia was administered for 24 h on the ward. Thereafter, the patients received oral non-opioid analgesics on request. Post-operative medication consisted of NSAIDs or intramuscular opioid injection every 6 h.

The duration of the surgical procedure was calculated from insertion of the Veress needle until the last skin closure suture, and included both the vaginal and the time needed to adjust the patient’s position for the vaginal phase.

The difference in the haemoglobin concentration before and after (day 1) surgery was calculated. Post-operative fever was defined as a body temperature of at least 38°C on two consecutive measurements at least 6 h apart, excluding the first 24 h. The incidence of intra-operative and post-operative complications and febrile morbidity, together with analgesic requirements and the length of the post-operative hospital stay, were recorded in every case. Patients were seen again 6–8 weeks after surgery and then every 6 months. All patients were encouraged to start intercourse as soon as they wished.

All the patients were contacted in April 2003 for a clinical and psychosexual assessment, and were asked to fill out a questionnaire on the functional results of the procedure (vaginal discharge, possibility of intercourse and bowel discomfort). Sexual activity was investigated by using a standardized questionnaire that included items on sexual activity before the operation (attempted intercourse, frequency of masturbation) and after the operation (desire for and frequency of intercourse, lubrication of the neovagina, difficulties with penetration and ability to achieve orgasm) (Grafeille et al., 1994).

**Results**

**Operating time, perioperative complications and drug consumption**

The characteristics of the seven operations for neovagina construction are given in Table I. The mean operating time was 312 min (range 220–450 min). The procedure was particularly long for the patient who had previously undergone a combined laparotomy–perineal procedure: intestinal adhesiolysis and perineal cleavage took 50 and 45 min, respectively.

The mean fall in the haemoglobin level 24 h after the procedure was 3.6 g/dl (range 2–4.4 g/dl). Blood transfusion was never required. No intra-operative complications occurred and laparoconversion was never necessary. No major and only two minor post-operative complications occurred: one woman
had a urinary tract infection and one woman had a haematoma of the right vulvar lip that did not require drainage. The mean transit recovery time was 2.2 days (range 2–4 days). A low-fibre diet was recommended for 8 days.

Analgesic drug consumption was recorded in five cases. The mean cumulative dose of morphine required to obtain a pain score of <4 during the first 24 h post-operatively was 12.6 mg (range 8–20 mg). Mean in-hospital consumption of NSAIDs and paracetamol was 216 mg (range 0–50 mg) and 16.2 g (range 8–28 g), respectively.

The mean hospital stay was 7.7 days (range 6–12 days).

Anatomic and functional results

The mean length of the neovagina, evaluated at the first postoperative follow-up visit, was 11.5 cm (7–15 cm). No length shrinkage was observed at 6 months. The neovaginal introitus admitted two fingers in breadth in five of the seven patients at the first post-operative follow-up visit. In the last two women, at 1-month follow-up visit, the introitus admitted less than two fingers in one case and one finger in the woman who had previously undergone unsuccessful laparotomic–perineal neovagina construction. Dilation of the introitus over a 2-month period was required for these two women, with adequate calibre of the introitus (superior to two fingers in breadth) found at the 3-month follow-up visit.

Mean follow-up was 31 months (range 5–90 months). All the women had transient leukorrhoea, with expulsion of the secretions weekly for 6 months. Only one woman reported persistent leukorrhoea more than 6 months after surgery, but it was not a source of discomfort. Four women had intercourse. The mean interval between the operation and first intercourse was 4 months (range 3–6 months). None of these four women complained of dyspareunia or discomfort 6 months after starting intercourse. Two women did not have intercourse because they had no partner, and one because she had a history of incest requiring psychotherapy. Despite this lack of intercourse, the introitus admitted two fingers at the 6-month follow-up examination, without dilation, in all three women.

Three of the four women engaging in intercourse were completely satisfied with the results of the operation. The last patient was not fully satisfied because her partner was only available for intercourse twice a month.

When asked if, with hindsight, they would undergo the same operation again, all seven women answered ‘yes’. They expressed the need to be like other women capable of having sexual intercourse, and to ‘rectify the injustices of nature’.

Discussion

This study demonstrates the feasibility and the good anatomic and functional results of laparoscopic–perineal neovagina construction based on sigmoid colpoplasty in women with the MRKH syndrome. The most important steps in the management of vaginal agenesis are correct diagnosis of the following conditions; thorough evaluation of associated congenital abnormalities (particularly ectopic kidneys) that may hinder the operation; and the patient’s desire to undergo corrective surgery.

There is no consensus on the best option for surgical correction of the vaginal agenesis associated with MRKH syndrome (Lauffer, 2002). Frank’s method has the advantage of avoiding surgery; however, it requires long-term catheterization, which may not be accepted by some younger patients. The anatomic and functional success rates of Frank’s method both range from 43 to 100% (Vecchietti, 1965; Wabrek et al., 1971; Capraro and Gallego, 1976; Broadbent and Woolf, 1977; Karjalainen et al., 1980; Rock et al., 1983) depending on the initial depth of the vaginal cupula and patient compliance with daily dilation (Table II). Vecchietti developed an alternative to Frank’s method, consisting of implantation of a device designed to increase the depth of the vaginal cupula (Vecchietti, 1965). This technique, like its laparoscopic variant, does not require vesicorectal dissection, and has anatomic and functional success rates of 100 and 98.1%, respectively (Fedele et al., 1994; Brun et al., 2002). However, daily application of a vaginal dilator is required before sexual intercourse can take place, and the depth of the neovagina is limited (Fedele et al., 2000).

The most widely used surgical grafting method is that of McIndoe, which involves a split-thickness skin graft inserted into a surgically created space between the bladder and rectum and maintained by a stent (Davydov, 1969; Tsirulnikov, 1984; Creatsas et al., 2001). The anatomic and functional success rates range from 57 to 91% and from 81 to 100%, respectively (Miller and Stout, 1957; Thompson et al., 1957; Whitely et al., 1964; Jackson, 1965; Cali and Pratt, 1968; Garcia and Jones, 1977; Rock et al., 1983) (Table III). The advantages of the McIndoe technique are the ease of the surgical procedure and the avoidance of intestine complications. The main disadvan-

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Table I. Operating time and perioperative complications of laparoscopic–perineal neovagina construction and length of the neovagina for the seven women with Mayer–Rokitansky–Kuster–Hauser syndrome

<table>
<thead>
<tr>
<th>Patient</th>
<th>Operating time (min)</th>
<th>Haemoglobin fall (g/dl)</th>
<th>Complications</th>
<th>Hospital stay (days)</th>
<th>Length of neovagina (cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>300</td>
<td>Not evaluated</td>
<td>No</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>2</td>
<td>220</td>
<td>Not evaluated</td>
<td>Vulvar haematoma</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>3</td>
<td>290</td>
<td>4.3</td>
<td>Urinary infection</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>4</td>
<td>450</td>
<td>4.4</td>
<td>No</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>5</td>
<td>270</td>
<td>2</td>
<td>No</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>6</td>
<td>285</td>
<td>4</td>
<td>No</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>7</td>
<td>370</td>
<td>3</td>
<td>No</td>
<td>7</td>
<td>11</td>
</tr>
</tbody>
</table>

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Table II. Anatomic and functional results of Frank’s method of neovagina construction

<table>
<thead>
<tr>
<th>Author</th>
<th>Patients</th>
<th>Follow-up (years)</th>
<th>Anatomic success</th>
<th>Functional success</th>
<th>Complications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wabrek et al. (1971)</td>
<td>3</td>
<td>NR</td>
<td>66%</td>
<td>100%</td>
<td>0</td>
</tr>
<tr>
<td>Capraro and Gallego (1976)</td>
<td>9</td>
<td>NR</td>
<td>89%</td>
<td>86%</td>
<td>NR</td>
</tr>
<tr>
<td>Broadbent and Woolf (1977)</td>
<td>8</td>
<td>NR</td>
<td>87%</td>
<td>100%</td>
<td>0</td>
</tr>
<tr>
<td>Vecchietti (1979)</td>
<td>36</td>
<td>NR</td>
<td>NR</td>
<td>NR</td>
<td>NR</td>
</tr>
<tr>
<td>Karjalainen et al. (1980)</td>
<td>3</td>
<td>1–4</td>
<td>100%</td>
<td>100%</td>
<td>0</td>
</tr>
<tr>
<td>Rock et al. (1983)</td>
<td>21</td>
<td>1–27</td>
<td>43%</td>
<td>43%</td>
<td>0</td>
</tr>
</tbody>
</table>

NR = not reported.

Table III. Anatomic and functional results of McIndoe’s method of neovagina construction by skin grafting

<table>
<thead>
<tr>
<th>Author</th>
<th>Patients</th>
<th>Follow-up (years)</th>
<th>Anatomic success</th>
<th>Functional success</th>
<th>Complications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Miller and Stout (1957)</td>
<td>46</td>
<td>NR</td>
<td>NR</td>
<td>90%</td>
<td>NR</td>
</tr>
<tr>
<td>Thompson et al. (1957)</td>
<td>32</td>
<td>1</td>
<td>83%</td>
<td>81%</td>
<td>6</td>
</tr>
<tr>
<td>Whitely et al. (1964)</td>
<td>4</td>
<td>NR</td>
<td>75%</td>
<td>100%</td>
<td>0</td>
</tr>
<tr>
<td>Jackson (1965)</td>
<td>128</td>
<td>NR</td>
<td>85%</td>
<td>NR</td>
<td>18</td>
</tr>
<tr>
<td>Cali and Pratt (1968)</td>
<td>121</td>
<td>1–37</td>
<td>57%</td>
<td>90%</td>
<td>7</td>
</tr>
<tr>
<td>Garcia and Jones (1977)</td>
<td>44</td>
<td>NR</td>
<td>NR</td>
<td>100%</td>
<td>2</td>
</tr>
<tr>
<td>Rock et al. (1983)</td>
<td>79</td>
<td>1–27</td>
<td>91%</td>
<td>100%</td>
<td>0</td>
</tr>
</tbody>
</table>

NR = not reported.

Table IV. Complications of neovagina construction by sigmoid coloplasty

<table>
<thead>
<tr>
<th>Author</th>
<th>Patients</th>
<th>Route for coloplasty</th>
<th>No. with leukorrhoea</th>
<th>No. with stenosis requiring surgery</th>
<th>Intercourse</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pratt (1961)</td>
<td>7</td>
<td>Laparotomy</td>
<td>7</td>
<td>NR</td>
<td>7</td>
</tr>
<tr>
<td>Goligher (1983)</td>
<td>7</td>
<td>Laparotomy</td>
<td>0</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Guillet et al. (1984)</td>
<td>12</td>
<td>Laparotomy</td>
<td>NR</td>
<td>2</td>
<td>12</td>
</tr>
<tr>
<td>Martinez-Mora et al. (1992)</td>
<td>19</td>
<td>Laparotomy</td>
<td>0</td>
<td>1</td>
<td>19</td>
</tr>
<tr>
<td>Freundt et al. (1992)</td>
<td>17</td>
<td>Laparotomy</td>
<td>0</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Freundt et al. (1993)</td>
<td>9</td>
<td>Laparotomy</td>
<td>8</td>
<td>4</td>
<td>9 (7 dyspareunia)</td>
</tr>
<tr>
<td>Ghosh and Kwawukume (1994)</td>
<td>15</td>
<td>Laparotomy</td>
<td>0</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Louis-Sylvestre et al. (1997)</td>
<td>16</td>
<td>Laparotomy</td>
<td>4</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>Del Rossi et al. (1999)</td>
<td>10</td>
<td>Laparotomy</td>
<td>NR</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Current study</td>
<td>7</td>
<td>Laparoscopy</td>
<td>1</td>
<td>0</td>
<td>4</td>
</tr>
</tbody>
</table>

NR = not reported.

tage of this technique is the need for continuous prolonged dilation and night-time stenting. In addition, McIndoe’s technique suffers from a high rate of graft shrinkage, dyspareunia and stenosis (McIndoe, 1950; Buss and Lee, 1989)

Sigmoid grafting offers adequate length, natural lubrication and early coitus. Moreover, the thickness of sigmoid tissue seems to withstand trauma better than small-bowel and skin grafts. Baldwin (1904) was the first to create a neovagina with an intestinal transplant. The sigmoid graft technique is associated with a low risk of stenosis of the perineal introitus, and a lack of lengthwise shrinkage and narrowing (Pratt, 1961; Goligher, 1983; Guillet et al., 1984; Martinez-Mora et al., 1992; Freundt et al., 1992, 1993; Ghosh and Kwawukume, 1994; Louis-Sylvestre et al., 1997; Del Rossi et al., 1999) (Table IV). However, stenosis of the introitus related to excessive traction on the sigmoid transplant or limited perineal cleavage has been previously reported requiring dilation or surgery (Table IV). Indeed, in our experience, a woman who had previously undergone unsuccessful laparotomic–perineal neovagina construction required dilation of the introitus. Despite these potential risks, among four techniques developed to create a neovagina, Martinez-Mora et al. (1992) reported that sigmoid vaginoplasty gave the best immediate and long-term results, and a low rate of transplant prolapse (Yokomizo et al., 2002). However, this method involves a major laparotomic operation and is associated with the usual risks of bowel surgery (including colonic and rectal perforation in 1 and 3% of cases, respectively) ((Hendren and Atala., 1994).

Only four case reports have been published on laparoscopic–perineal neovagina creation by sigmoid grafting (Delga and
Potiron, 1997; Ikuma et al., 1997; Ota et al., 2000; Darai et al., 2002). We confirm the feasibility of the laparoscopic approach in a series of seven women. No consensus exists on the pre-operative work-up. Delga and Potiron (1997) recommended a barium enema, while Ikuma et al. (1997) and Ota et al. (2000) performed mesenteric arteriography and intravenous urography. None of our seven patients underwent intestinal opacification. Mesenteric arteriography, performed in five of the seven patients, was non-contributory, as laparoscopy offered an adequate view of sigmoid vascularization by transillumination. In accordance with Louis-Sylvestre et al. (1997), we think that mesenteric arteriography is not required in this setting, except to determine potential anatomic vascular variations in women with ectopic kidney(s) (Louis-Sylvestre et al., 1997).

The mean operating time was long in our series, but was similar to that previously reported with laparotomy (Ghosh and Kwawukume, 1994; Louis-Sylvestre et al., 1997). Furthermore, in a previous retrospective case–control study of surgical treatment of the MRKH syndrome (Thoury et al., 2003), the laparoscopic approach offered lower analgesic drug consumption, more rapid gas and stool recovery, and a shorter hospital stay. Nevertheless, despite MRKH syndrome being infrequent and these patients often being highly distressed, randomized multicentre trials comparing laparoscopy and laparotomy are required to confirm the advantages of laparoscopic–perineal neovagina construction.

We obtained encouraging anatomic results. Except for two cases in which dilation of the introitus was required, the length and width of the introitus were compatible with intercourse as early as the third post-operative month, without the need for stenting. The narrower introitus observed in a woman who had been treated previously with laparotomy suggests that stenting may be advisable when laparoscopic–perineal neovagina construction is performed after failure of a previous surgical method. Our anatomic results are in keeping with those reported in previous laparotomic studies (Pratt, 1961; Goligher, 1983; Guillet et al., 1984; Freundt et al., 1992, 1993; Martinez-Mora et al., 1992; Ghosh and Kwawukume, 1994; Louis-Sylvestre et al., 1997; Del Rossi et al., 1999) in which the frequency of secondary stenosis ranged from 0 to 44% (Table IV).

The functional results of laparoscopic–perineal neovagina construction were also encouraging. Despite transient post-operative leukorrhoea in all seven women, only one woman reported persistent leukorrhoea, without noteworthy discomfort. This rate of persistent leukorrhoea is in keeping with previous reports of laparotomic neovagina construction (Table IV). Importantly, all four women who had intercourse during follow-up were satisfied with the results of surgery, and none experienced dyspareunia after 6 months of intercourse. One woman with good anatomic results did not have intercourse, owing to a psychological disorder linked to childhood sexual abuse. This underlines the need for proper evaluation of the patient’s motivation and psychological status before proceeding with neovagina construction (Louis-Sylvestre et al., 1997; Templeman et al., 2000; Lauffer, 2002).

In conclusion, the results of this relatively large series confirm the feasibility of laparoscopic–perineal neovagina construction by sigmoid colpoplasty for MRKH syndrome, provided the surgeons have extensive experience in both gynaecological and digestive laparoscopic surgery. The neovaginas all had adequate length, showed no shrinkage during follow-up and gave good functional results. Laparoscopy may thus contribute to reducing the psychological and aesthetic consequences of surgery in this setting, especially for these young women who are already distressed by their malformation. Further studies of larger series are necessary to confirm the anatomic results and patient satisfaction.

References


Laparoscopic, perineal neovagina construction in Rokitansky’s syndrome


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