Several methods have been developed for colpopoiesis in patients with vaginal agenesis. Nonetheless, various problems remain, including technical difficulty, invasiveness, operative stress, and poor cosmetic results, as well as the insufficient naturalness of the vagina itself. We have successfully completed colpopoiesis using the pelvic peritoneum in a laparoscopic surgery for Rokitansky-Küster-Hauser syndrome (RKH).

This method is considered to be exceptionally effective in terms of minimal operative stress, simplicity, and aesthetics, making it possible to construct a substitute vagina when RKH has been diagnosed. However, it is not ideal, since the natural characteristics of the vagina itself have not been duplicated. Further studies are needed to achieve even better results.

Laparoscopic surgery has been used to treat various diseases in many regions and is now becoming established as a separate subdivision of surgical therapy called “Minimally Invasive Surgery.” We use this technique for oophorectomy, vaginal hysterectomy, etc. This report describes a colpopoiesis we performed by laparoscopic surgery using the peritoneal tissue in a patient with vaginal agenesis corresponding to RKH. We used Rothman’s procedure with Davydov’s technique. We compare this method with laparotomy for colpopoiesis with the use of sigmoid colon and discuss the advantages and drawbacks of the two methods and our future policy.

**CASE REPORT**

A 16-year-old female with amenorrhea was referred to us by a gynecologist who had diagnosed vaginal agenesis; she came to our hospital for a definite diagnosis and a colpopoiesis on April 7, 1993. Her secondary sexual development, such as the growth of breasts and external genitalia, was normal except for a blind loop at the vaginal introitus. Her height was 165 cm and her weight 63 kg. The uterus could not be detected by ultrasonography. Laboratory examinations revealed FSH 3.2 mIU/L, LH 2.3 mIU/L, E2 90 pg/mL, Prog. 2.5 ng/mL, and aldosterone 106 pg/mL in the blood, and a 46 XX chromosome pattern. Her basal body temperature was biphasic.

These findings led to a diagnosis of vaginal agenesis. After being informed in detail about the diagnosis and treatment, she gave her written consent and underwent a colpopoiesis by laparoscopic surgery with the use of peritoneal tissue on August 11, 1993.

**SURGICAL PROCEDURE**

Laparoscopy was conducted under general anesthesia with endotracheal intubation.
First, pneumoperitoneum was produced through the lower part of the umbilical fossa, and a trocar for a laparoscope was inserted for observation. As shown in Figure 1, the vagina ended in a blind loop with no introitus. The Fallopian tubes and ovaries showed a normal morphology; there were right and left vestigial uteri. Therefore, our diagnosis was vaginal agenesis corresponding to RKH.

Next, we proceeded to construct a vaginal tunnel for a colpopoiesis. As shown in Figure 2, after a cruciform incision to make a vaginal inlet, the tissues between the bladder and the rectum were separated gently by the fingers, under observation through a laparoscope, to detach the pelvic peritoneum at the Douglas pouch. As shown in Figure 3, after sufficient detachment, the pelvic peritoneum was dissected by an electric cautery under observation through a laparoscope.

As shown in Figure 4, the pelvic peritoneum which had been detached and dissected as described above was pulled to the vaginal inlet; we sutured around it by single transfixion sutures to create a peritoneal vaginal wall.

Finally, a cervical canal dilator (Hegar No. 30) was inserted into the vaginal duct for about 10 cm, and pneumoperitoneum was induced again. Figure 5 shows the pelvic peritoneum sutured with transfixion sutures at four points, right, left, and central parts, under laparoscopic observation. The colpopoiesis was now complete.

**RESULTS**

The operation took about 90 minutes, and blood loss was about 100 g mainly from the blunt dissection to and from the vaginal tunnel. As shown in Figure 6, there were three wounds in the abdominal wall: a perforating wound (10 mm in diameter) for the laparoscope, and two perforating wounds (each 5 mm in diameter) for forceps. Normal ambu-
Figure 4. Suturing of pelvic peritoneum to vaginal introitus.

Figure 5. Colpopoiesis completed with transfixed suturing to pelvic peritoneum.
Laparoscopic Surgery for Colpopoiesis with the Pelvic Peritoneum: First Report in Japan
IKUMA, OHASHI

METHODS

We used laparoscopic surgery for a colpopoiesis and found it to have many advantages over laparotomy.

CONCLUSIONS

1. We used laparoscopic surgery for a colpopoiesis and found it to have many advantages over laparotomy.
2. Further investigation is necessary, because colpopoiesis using peritoneal tissue does not necessarily provide satisfactory naturalness and permanence.
3. Because colpopoiesis using sigmoid colon is considered to be ideal, we hope to investigate laparoscopic colpopoiesis using the sigmoid colon.

REFERENCES