CASE REPORT

Laparoscopic creation of a neovagina in a woman with a kidney transplant

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The successful use of Vecchietti’s technique for creating a neovagina in a case of Rokitansky syndrome with an associated transplanted kidney is reported. The technique is performed by means of a laparoscopic approach, adapted to the special anatomical situation, in order to avoid renal injuries. The accomplishment of a normally functioning neovagina, with no intra-operative or post-operative complications, proves that this technique can also be applied satisfactorily to this type of patient.

Key words: neovagina/Rokitansky syndrome/transplanted kidney

Introduction

In recent years, various reports in the literature have proved the feasibility and effectiveness of Vecchietti’s technique to create a neovagina in patients with Rokitansky syndrome. The safety of this intervention appears good, although lesions of the urinary system and rectum are theoretically possible (Vecchietti, 1979; Veronikis et al., 1997). Performed at laparoscopy, the creation of a neovagina also seems as feasible and safe in patients with renal anomalies such as a pelvic kidney, an anomaly frequently associated with the typical agenesis of the uterus and vagina of Rokitansky’s syndrome (Fedele et al., 1996). We decided to apply the same modified laparoscopic technique to a case of uterovaginal agenesis with a transplanted kidney.

Case report

In 1997 a 22 year old patient with a renal transplant was referred to us at the Department of Obstetrics and Gynecology, Verona University, as she had complete uterovaginal agenesis, class IE according to Buttram and Gibbons’ classification (Buttram and Gibbons, 1979), and wanted to start sexual activity. She had had a renal transplant 3 years before, after suffering from a left ureterocoele with exclusion of the ipsilateral kidney and right ureteropyonephrosis. The transplant procedure was the standard one and the transplanted organ was located in the left hemipelvis, as shown by ultrasonography. The patient’s plasma creatinine concentration was 1.25 mg/ml. On-going immunosuppressive therapy consisted of cyclosporine A, twice daily and azathioprine once daily. Before surgery, the patient was informed that the laparoscopic procedure might need to be converted into a laparotomy, due to the pelvic location of the transplanted kidney. However, this was not necessary since the laparoscopic procedure, while being substantially the same as the one previously described by our group (Fedele et al., 1996), was adapted to the special case with only slight modifications.

Vecchietti’s thread-bearing needle (Vecchietti, 1979) was first inserted on the side contralateral to the transplanted kidney. Its passage from the abdominal wall to the hymenal fovea was not completely subperitoneal, since it was briefly drawn out of the peritoneum at the fold between the bladder and ureter rudiment, then reinserted into the subperitoneal connective tissue immediately underneath the Müllerian rudiment and finally passed between the bladder and rectum to reach the retrohymenal fovea. In such a way, the two threads of the acrylic olive were both hooked by the needle and drawn in the peritoneal cavity. At this level, one thread was left loose while the other was withdrawn from the abdomen on the side contralateral to the transplanted kidney. On the side of the pelvic kidney, the transparietal approach of the needle, to reach the loose thread at the fold between the bladder and the uterine rudiment, followed a more medial and anterior course in order to avoid the transplanted organ (Figure 1).

The whole surgical procedure lasted ~45 min and no intra-operative nor post-operative complications were observed. After ~1 week, a neovagina 7 cm long was obtained with the traction applied to the acrylic olive-shaped prosthesis, thus allowing subsequent application of vaginal dilators of increasing diameter as originally described (Vecchietti, 1979). The patient was discharged from the hospital on the eighth post-operative day. She started sexual activity 30 days after the intervention and epithelialization of the neovagina was almost complete in 5 months.

Discussion

To our knowledge, this is the first report of the laparoscopic creation of a neovagina in a patient previously treated with kidney transplant, although we are unaware of whether this operation has ever been performed in similar cases with a laparotomic approach.

In view of the pelvic location of the transplanted kidney,
These modifications have already proved effective and safe in four patients with pelvic kidney who underwent creation of a neovagina in our department (Fedele et al., 1999). Urethral damage did not occur in any of our patients. The step of the intervention concerning the passage of the thread-bearing needle through the vesico–rectal space may be reduced to just one, and in the present case, it may be carried out on the side contralateral to the transplanted kidney. Compared with other methods used to create a neovagina, our modification of Vecchietti’s procedure appears to be the first choice also in cases of kidney transplant. As well as the well-known advantages of the new technique, one should also consider the short duration of both operation and post-operative course plus the low risk of infectious complications, particularly feared in kidney transplant patients.

References


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Figure 1. Relevant steps of the surgical procedure. (A) Vecchietti’s straight thread-bearing cutting needle is inserted on the side contralateral to the transplanted kidney, passes between the bladder and rectum and hooks the two threads attached to the acrylic olive-shaped prosthesis. (B) The thread on the right side has been withdrawn from the abdomen at completion of step A. The needle is being introduced at the side of the transplanted kidney and passed subperitoneally along a more medial and anterior course until it hooks the thread left free into the peritoneal cavity. (C) View of the pelvis at the end of the operation. Both threads have been withdrawn and their course is shown by the dashed line.

we had assumed that performing Vecchietti’s procedure might be more complex; on the contrary, the slight modification of the original laparoscopic technique was easily accomplished.