Case report
Late complication of ureteric damage following hysterectomy

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Abstract

A patient who presented 4 months after pelvic surgery with a recurrent large retroperitoneal cyst, as a direct result of ureteric trauma, is reported.

Keywords: Ureter; Injury; Urinoma

1. Introduction

Ureteric injury is a recognised complication following gynaecological surgery, typically presenting as post-operative pyrexia, loin pain or the eventual formation of a fistula. The development of recurrent retroperitoneal urinoma is an unusual presentation.

2. Case report

A 44-year-old mentally retarded woman was referred with a huge cystic swelling occupying the left side of her abdomen. Eight months earlier she had a subtotal abdominal hysterectomy and bilateral salpingo-oophorectomy for a large adenomyoma and extensive endometriosis. Four months post-operatively, a large mass had developed in the abdomen, which at laparotomy, performed through a midline incision, was found to be a large left-sided retroperitoneal cyst which was marsupialised. The precise nature of the cyst was not identified at the time. Within a further 4 months she had presented with a similar abdominal mass which suggested the cyst had recurred and, at that time, she was referred to a tertiary centre.

Computerised tomography (CT) and intravenous pyelogram (IVP) were performed. A dynamic post-contrast study showed a cystic mass occupying the left side of the abdomen and pelvis, which appeared to be arising from the left kidney. This had features of a large para-pelvic cyst. The lower pole of the left kidney showed good nephrogenic enhancement but superiorly there was only rim enhancement present. On the lower section, the left ureter was slightly dilated, lying to the right of the midline immediately anterior to the abdominal aorta, and what appeared to be the left ureter extended across the midline to communicate with the main cystic mass. No contrast entered the left ureter (Fig. 1). The right kidney was of normal size and displayed normal excretion. Within the pelvis the uterine stump appeared unremarkable.

The patient was referred to a urologist and scheduled for her third laparotomy. An intra-operative ureterogram showed the left ureter ending blindly opposite the upper body of the sacrum. Retrograde catheterisation could only be achieved for approximately 1 cm along the left ureter. On exploring the abdomen, an incidental small left hydrenephrosis was noted having the appearance of a pelvi-ureteric junction (PUJ) obstruction.
3. Discussion

The true incidence of ureteric injury associated with pelvic surgery is unknown but several large retrospective studies suggest rates varying between 0.2% and 1.5% [1]. Less than a quarter of these injuries are recognised at the time of operation and quite often the surgery is described as uncomplicated. Predisposing factors associated with ureteric damage include endometriosis, pelvic inflammatory disease, large uterine or adnexal masses, cancer surgery and previous radiotherapy. However, 40% of injuries to the ureter at hysterectomy occur in association with menstruation without major pathology [2]. Of these injuries, 80% occur at the distal ureter just lateral to the vagina where the uterine artery crosses ventrally over it to enter the uterus. The remaining sites are at the infundibulopelvic ligament (12%) and at the angle of the vaginal fornix itself (6%). The different types of injury vary from ligation (partial or complete), accounting for 50% of cases, transection (35%), to excision of several centimetres of the ureter.

Following ureteric trauma, a collection of urine may form outside the ureter in the immediate post-operative period. If this urine does not drain and form a fistula, a pseudocapsule of fibrous tissue will form, encapsulating the urine to create a urinoma. Urine may collect in the peritoneal cavity giving the impression of malignant ascites and present as a possible ovarian neoplasm [3].

The patient we describe undoubtedly had some ureteric injury at the time of her first operation. It is unclear as to whether the mass that formed was initially a large urinoma or possibly a ureteric diverticulum resulting from obstruction. Initial surgery to marsupialise the cyst may have resulted in marked alteration of the anatomy. Percutaneous aspiration of the fluid to confirm the presence of urine, in the first instance, may have made the diagnosis earlier and prompted urological referral, thereby avoiding an unhelpful laparotomy.

Although this case is an atypical presentation of ureteric damage, it serves to emphasise the need for vigilance in identifying both trauma to the urinary tract occurring intra-operatively, and also that which presents in the post-operative period.

References