Case Report

Surgical rescue and Restoration of Renal Function in a Post-hysterectomy Anuric Patient - A case report

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ABSTRACT
The recovery of renal function following release of urinary tract obstruction with advanced azotemia determines both the need for emergency dialysis in the early postoperative period and the long term planning for chronic kidney disease management.(1)
METHOD AND RESULTS: The case of a 60year Old woman with a anuria following a Total Abdominal Hysterectomy done in a peripheral hospital presenting in the emergency unit two weeks after the surgery is presented.Her management and subsequent restoration of renal function are discussed.
CONCLUSION:
This report highlights the need to intervene early to restore renal function in patients with bilateral ureteric obstruction.

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INTRODUCTION

The recovery of renal function following release of urinary tract obstruction with advanced azotemia determines both the need for emergency dialysis in the early postoperative period and the long term planning for Chronic kidney disease management(1).

Latrogenic ureteric injury is still a major cause of harm and concern. The time taken to detect the injury remains the most important morbidity-related factor (2).

Gynaecologic procedures remain the commonest cause of iatrogenic injury to the ureter. (3)

Abdominal hysterectomy is a major cause of anuric acute renal failure (4).

Bilateral ureteric ligation is a rare complication of hysterectomy. (5)

CASE REPORT

A 56 yr old para 6 + 0 post-menopausal woman presented on 7th December, 2008 at the emergency unit of the Federal Medical Centre, Makurdi, with a two week history of inability to pass urine associated with abdominal swelling and loin pains.

These followed a total abdominal hysterectomy, appendicectomy and epigastric herniorrhaphy performed two weeks prior to presentation in a peripheral hospital.
Examination revealed an ill looking woman who was not pale or febrile, she had a pulse rate of 108 beats/min. and Blood pressure of 140/100mmHg.

The abdominal examination revealed fresh but healed epigastric and pfannenstiel wounds with demonstrable ascites, bilateral renal angle tenderness and a ballotable left kidney.

A vaginal examination showed an atrophic vulvovagina with copious whitish discharge. The external urethral meatus was grossly normal.

A urethral Catheter passed failed to drain any urine.
An assessment of post-operative anuria following bilateral ureteric ligation was made.

A urea, electrolytes and creatinine done at presentation showed an elevated urea of 17.2mmol/l, creatinine of 183micromol/l, potassium of 5.3mmol/l and bicarbonate of 18mmol/l.

An abdominal ultrasound scan revealed a Grade III hydronephrosis on the left and a Grade II hydronephrosis on the right.

There was free fluid noted within the abdomen.
The catheter balloon was noted in the collapsed urinary bladder.

Probe tenderness was noted over the entire abdomen She had a packed cell volume of 30%.

She was worked up for and had an open left nephrostomy using a left subcostal extra-peritoneal approach under local anaesthesia and sedation. The findings at operation were an enlarged, hydronephrotic left kidney with a dilated left ureter. An inadvertent laceration of the peritoneum resulted in copious drainage of 1.8 litres of straw coloured fluid.

Nephrostomy was achieved with a size 22fr foleys catheter.

A size 16 catheter would have sufficed to drain the urine.The risk of Bleeding is obviously higher with a bigger catheter but this is a grade III hydronephrotic kidney that could accomodate the size that was used. We

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also felt if there was some bleeding, the bigger catheter will drain it easily.
She had post-obstructive diuresis with passage of between 2 3.8 litres of urine daily in the first 72hrs. She did well post nephrostomy with the urea falling to 2.8mmol/l and creatinine falling to 95micromol/l on the fifth post operative day.

A repeat abdominal ultrasound showed a resolved left hydronephrosis with good corticomedullary differentiation noted. The right kidney still showed grade II hydronephrosis.

The urinary ascites noted pre-operatively had resolved.

She was prepared for and had an exploratory laparatomy three weeks post-nephrostomy.

The findings at operation were bilaterally ligated ureters about 2cm from the bladder with dilated ureters up to the point of ligation with the right being more dilated than the left. She had bilateral ureteroneocystostomy with an incorporated bilateral psoas hitch.

She did well post operatively.

She was weaned off the nephrostomy on the 7th post operative day.

A repeat ultrasound scan done two weeks post-op showed normal sized kidneys with good corticomedullary differentiation. The catheter balloon was noted in the urinary bladder.

She could not do an Intravenous Urography due to financial constraints.

She was discharged three weeks post-operatively.

Renal function at discharge was within normal limits (Na 134, K 4.9, HCO3 100, Cr 97.8, Urea 2.8mmol/l). She was found to be in good health with good renal function on follow up at the surgical outpatient clinic two weeks following discharge.

DISCUSSION

Bilateral ureteric injury is a rare complication of hysterectomy (5). Ureteric injuries range from contusions, lacerations to ligations.

Bilateral ligature if not recognized and managed promptly will culminate in anuria with consequent renal failure.

The time taken to recognize ureteric injury remains the most important morbidity related factor (1, 2).

However the type of injury will determine the option of treatment. In our patient if bilateral ligatures were recognized at operation, releasing the ligatures and stenting the ureters would have sufficed but in view of the duration, resection above the ligature with bilateral ureteroneocystostomy had to be done.

Nephrostomy is a conservative approach to enable the kidneys recover and allow the patient's condition to stabilize for the definitive procedure. (6,7,8,9).

Percutaneous Nephrostomy under ultrasound guidance would have been ideal since it is minimally invasive and carries less morbidity; however the non availability of a percutaneous set precluded the use of this option hence the open nephrostomy.

Cutaneous ureterostomy is an option but at the time of the rescue nephrostomy, the level of ureteric injury was not known. Furthermore this would have meant technically a double injury on the same ureter. We were also not sure the extent of anatomical distortion that may have involved the ureters since she had hysterectomy, appendectomy and epigastric herniorrhaphy at the same seating.

An end cutaneous ureterostomy would be ideal if we had seen the patient at the time of the primary surgery assuming a primary repair was not possible.

Dialysis would have achieved the same effect as a nephrostomy but this option is however not available in our centre.

The outcome of this index case shows that even in resource poor settings, it is possible to achieve a good outcome even in delayed cases.

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