Spontaneous Rupture Of The Renal System And Caliceal System

Attaullah Jan,* M.B.B.S.
M.C.P.S., F.C.P.S.,
Postgraduate Medical Institute,
Lady Reading Hospital, Peshawar.
Altaf Qadir,** M.B.B.S.,
Qamar Zaman, *** M.B.B.S.,
F.R.C.S.
and
Qazi Khudim Mobyuddin,****
M.B.B.S., F.R.C.S.,
Hayat Shaheed Teaching Hospital,
Peshawar, Pakistan.

Summary

A case is reported of spontaneous rupture of renal pelvis and caliceal system of idiopathic nature who presented with left renal pain. The condition is quite rare. The management and literature have been discussed.

Introduction

Unilateral spontaneous rupture of renal calices or pelvis is quite rare and its recurrence unusual.

Rupture of the renal pelvis in the absence of trauma is uncommon. In previously reported cases there has usually been an underlying cause. Mostly obstruction of the ureter and calculus and occasionally adhesions or tumours were the cause.

* Asstt: Professor of Surgery, Postgraduate Medical Institute;
** Trainee Medical Officer;
*** Associate Professor of Surgery;
**** Professor of Surgery, Khyber Medical College & Visiting Surgeons, Hayat Shaheed Teaching Hospital.
Rupture of the pelvi-calceal system intraperitoneally is due to ureteric calculus obstruction, presents with acute abdomen and is quite rare. It has also been reported in Tuberous Sclerosis. Rupture during I.V.U. has been reported.

We report a case who had idiopathic spontaneous rupture of calceal and renal pelvis affecting one side.

Case Report

Mr. A.C., a 50 years old man, from Landikotal (N.W.F.P.) was admitted through emergency on August 28, 1988 with a history of pain left lumber region and backache of 10 years duration. The pain was gradual in onset and was associated with burning micturition and oliguria. The patient had no relevant medical history.

Examination on the day of admission revealed temperature of 100°F and marked tenderness in left renal angle. Urine examination revealed 2-3 pus cells/HPF, rare RBCs and 1-2 calcium oxalate crystals/HPF. His blood urea was 3 mmol/L, blood sugar 3.7 mmol/L with normal serum electrolyte and creatinine. E.S.R. was 60mm/1st hour and Hb 11.3 Gm% with TLC 6,700/cu-mm. ECG showed bradycardia. X-ray chest was normal. Plain KUB revealed no calculus. (Fig:1)

Diagnosis of left ureteric colic was made. The patient was put on following medicines:-

1. Inc: Diclofenac 75 mgm 1/M B.D.
2. I/V Fluids.
3. Tab: Cotrimoxazole (D.S.) one tab: B.D.
4. Rectal suppositories.

I.V.U. performed on 30th Aug: 1988 revealed extravasation of dye (urine) from superior and middle calyx and pelvis into perinephric area. (Fig: 2,3).

Cystoscopy and retrograde pyelography on 7th Sept: 1988 showed normal bladder and ureteric orifices. Left retrograde catheterisation showed
no obstruction. Retrograde pyelography confirmed the leakage from upper and middle calyx and pelvis of left kidney. (Fig: 4,5).

During the stay in the unit he did respond to the conservative treatment with antibiotics and analgesics and his temperature remained normal. On 11th September his temperature was 100°F and the pain recurred.

On 12th September 1988 his left kidney was explored through Rutherford Morrison’s incision. The kidney was almost normal in size but looked inflammed and there was free fluid in the perinephric area but no definite rent could be demonstrated in the pelvis or substance of the kidney.

Pyelostomy was performed and ureteric catheter passed down the ureter but due to doubt of little resistance at the lower end, the ureter was explored (ureterostomy was done) but no stone or obstructive lesion could be demonstrated.

Post-operatively the patient had pyrexia up to 101°F for two days which settled afterwards and his general condition improved. He was discharged on 29th September, 1988.

He was asymptomatic prior to discharge. I.V.U. was repeated on 26th September 1988 (Fig: 6) which showed little extravasation in the superior calyx and pervis but marked improvement as compared to pre-operative I.V.U. and both the kidneys and ureters could be visualised.

He did not report for follow-up upto date.

Discussion

Rupture of the renal calices and pelvis is uncommon. The report of ‘spontaneous rupture’ refers to extravasation in the absence of trauma. But in most cases underlying obstructive cause is found.

Our patient presented with left sided rupture of caliceal system and pelvis and on repeated interrogation no history of trauma was forth coming. Excretory urography and retrograde pyelography revealed no evidence of obstruction in the ureter or higher up.
Fig: 1 Plain X-ray K.U.B. on 28th Aug: 1988 showing no calculus.

Fig: 2 & 3 I.V.U. on 30th Aug: 1988 showing extravasation from calyx & pelvis of the left kidney into the perinephric area.
Fig: 4 & 5 Retrograde pyelography on 7th Sept. 1988 confirming the leakage from the calices and pelvis.

Fig: 6 Repeat I.V.U. on 26th Sept. 1988 still showing little extravasation on left side but marked improvement as compared to pre-operative I.V.U. on 30th August 1988.
Management of rupture of caliceal system or pelvis depends on its cause. Rupture secondary to obstruction is treated by relieving obstruction. However, in true idiopathic rupture of the pelvi-caliceal system, there is no obstruction to relieve. Observation and sedation as necessary are all that is required, once the diagnosis is established.

In our case, patient developed severe symptoms (suggesting perinephric abscess) that forced us to explore, but neither abscess nor any obstruction could be proved.

It could be postulated that there is an area of weakness in one of the calices. Adrick et al also suggest transudation of urine through the thinnest portion of collecting system - the renal fornices in cases of children with urethral valves. Bilateral spontaneous rupture is difficult to explain on this basis.

Sudden high fluid pressure might distend the pelvi-caliceal system but no such history was there in our case. Urinary manometric studies have demonstrated that hydrostatic pressure in excess of 150 cm of water in the renal pelvis is necessary to cause rupture of normal pelvis.

References


