

# An Unexpected Cause Of Spontaneous Perinephric Urinoma: A Case Report

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## Citation

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## Abstract

Spontaneous perinephric urinary extravasation (perinephric urinoma) in an adult secondary to neurogenic bladder is known. Urinoma and pleural effusion secondary to an over distended neurogenic bladder causing back pressure changes and urinary extravasation in a status post partum patient is not that common.. We report a case of spontaneous perinephric urinary extravasation with left sided pleural effusion in a patient, status post caesarian section.

## CASE REPORT

A 40 year old post partum women ( elderly primigravida with a history of prolonged labor) reported for routine follow up 12 days post LSCS section done under general anaesthesia. She complained of vague abdominal pain, more in the left flank. Patient had no complaints related to micturition. Clinical examination revealed fullness of the abdomen and mild tenderness in the left flank. Biochemical examination revealed elevated BUN, serum creatinine. Blood picture revealed leucocytosis with neutrophilia . Urine culture was sterile.

Ultrasound revealed a large abdomino pelvic cystic mass. Post void scan showed persistence of the mass. The mass was well defined, thin walled and anechoic, with no septations. It was occupying the entire pelvis, extending above the umbilicus and into the left hypochondrium. Both kidneys showed fullness of the pelvicalyceal system. There was bilateral perinephric fluid collection, more on the left side (Fig1).

A left sided pleural effusion was also seen. Uterus was seen draped over the mass , with the fundus seen in the left hypochondrium. (fig2)

NECT and CECT scan of the abdomen was performed with Ultravist 300 NECT confirmed the presence of unilocular ,thin walled large abdominopelvic cystic structure measuring 18 x 17 cm. The perinephric fat planes were fuzzy and distorted and showed fluid collection. (left > right). The kidneys appeared swollen with fullness of the pelvicalyceal system and displayed normal concentration and excretion of

contrast. (fig3)

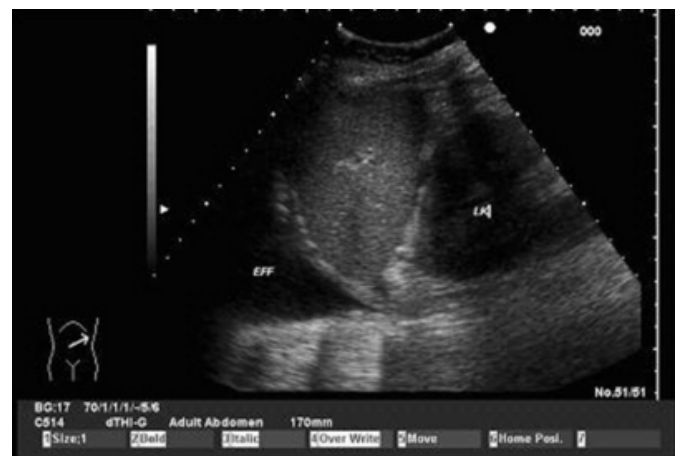
The ureters were not dilated and did not opacity with contrast material.. The cyst was non enhancing.(fig 3)

Delayed scan after 30 minutes showed dense contrast leakage in the perinephric space bilaterally. The leak extended into the anterior pararenal space on the left side, and the posterior pararenal space on the right side. (fig4)

There was no contrast excretion into the ureters and bladder.(fig5). A left sided pleural effusion was seen.

## Figure 1

Figure 1: Ultrasound showing left perinephric and pleural fluid.



**Figure 2**

Figure 2: Ultrasound showing uterus draping over the cystic lesion in the left hypochondrium.



**Figure 4**

Figure 4: CECT showing contrast extravasation in perinephric and pararenal spaces



**Figure 3**

Figure 3: CECT showing over distended bladder appearing as cyst



**Figure 5**

Figure 5: CECT showing non opacification of ureters



Imaging findings confirmed a large abdominopelvic fluid collection with bilateral perinephric urinary extravasation and left pleural effusion. On ultrasound differential diagnoses for the cystic mass like postoperative loculated collection, grossly distended bladder and rare possibility of ovarian cyst following torsion/ adhesion were considered. This was narrowed down to collection / distended bladder after the CT scan.

Catheterization resulted in drainage of approximately 8 liters of urine. Post drainage ultrasound screening showed complete collapse of the distended bladder with significant reduction in the urinary ascites and the left pleural effusion. (fig 6) . The uterus returned to the pelvis. She had post uraemic diuresis in the following 3 days.

**Figure 6**

Figure 6: Post catheterization ultrasound showed near empty bladder



**Figure 7**

Figure 7: Post catheterization ultrasound showing disappearance of perinephric and pleural fluid.



We concluded that it was a case of diffuse perinephric urinoma and pleural effusion secondary to acute on chronic retention in a grossly distended bladder with distension overflow. The sequence of events was not definite and can only be speculated. Prolonged labour in this elderly primigravida has probably resulted in post partum neurogenic bladder with distension overflow. The abnormally distended bladder has caused bilateral ureteric compression. An acute on chronic episode has probably caused bilateral forniceal rupture and perinephric urinomas.

The patient was treated with antibiotics, catheterization and physiotherapy (voiding techniques). Biochemical parameters gradually returned to normal values.

## DISCUSSION

Chronic urinary retention(CUR) is the condition where the

patient retains a substantial amount of urine after every void. The exact volume of residual volume is not defined and may range from > 300ml to many liters .<sup>1</sup>

CUR is usually painless and not associated with a desire to void. Presence of pain or dull ache suggests acute on chronic retention. Chronic retention in post partum patients is more common in women with nulliparity, longer labor course, instrumental delivery, extensive vaginal and perineal laceration and epidural anesthesia. <sup>2</sup>

Urinoma is uriniferous perirenal pseudocyst secondary to tear in collecting system with continuing renal function.<sup>3</sup> Urinoma in post partum women is due to acute on chronic retention, as in our case. Urinomas can have various locations as follows

- Cystic mass in peri renal space - localized perirenal urinoma (most common).
- Cystic mass filling entire perirenal space – diffuse perirenal urinoma.
- Sickle shaped collection – subcapsular urinoma.
- Encapsulated expanding intrarenal cystic mass separating renal tissue fragments intrarenal urinoma.<sup>3</sup>
- Collection extending to the pararenal spaces.
- Extravasation in pleural cavity –urothorax

Urothorax is extravasation of urine into pleural cavity and usually follows trauma, peritoneal dialysis or severe obstruction with reflux nephropathy. Our literature search revealed one report of spontaneous urinary extravasation with pleural effusion occurring in pregnancy.<sup>4</sup>

Urinoma is aggravated by sudden diuretic load of urographic contrast material. Complications of urinoma include perinephric abscess, stricture of upper ureter and retroperitoneal fibrosis. <sup>3</sup>

## CONCLUSION

Acute on chronic retention of urine due to post partum and post surgical causes can lead to the formation of perinephric urinoma and urothorax.

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