

## URINOMA COMPLICATING PREGNANCY - A CASE REPORT

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### ABSTRACT

#### BACKGROUND

Urinoma is an encapsulated collection of urine, which occurs mostly due to raised intrapelvic pressure. It is rare in pregnancy and this is a case report of urinoma in an antenatal mother managed conservatively successfully. The aim is to emphasise the importance of early diagnosis of urinoma in pregnancy to avoid complications.

#### KEYWORDS

Urinoma, MRI, Pregnancy Termination.

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#### BACKGROUND

Spontaneous perinephric urinoma during pregnancy is extremely rare. It occurs due to obstruction uropathy caused by the gravid uterus. Non-obstruction causes include trauma to urogenital system, gynaecological, retroperitoneal or genitourinary surgery. Urinoma is an encapsulated collection of extravasated urine and can be subcapsular, perinephric, peripelvic or diffuse in retroperitoneum. Most probable pathophysiology of spontaneous urinoma is pyelosinus back-flow of urine rising intrapelvic pressure > 35 cm of water with subsequent multiple rupture or porosities at calyceal fornices and extravasation of urine through sinus and renal capsule. Hydronephrosis is physiological in pregnancy caused by hormonal changes and mechanical obstruction by gravid uterus and completely resolved during postpartum period. These changes in rare instances lead to perinephric urinoma, when condition is severe and prolonged. We report here a case of perinephric urinoma on right side, diagnosed in antenatal period and managed conservatively successfully.

#### Aims and Objectives

The aim is to emphasise the importance of urinoma as a diagnosis in any antenatal mother presenting with the signs and symptoms as in this case, so that early recognition will help in managing the case conservatively. Even flank pain in the mother should have urinoma as a differential diagnosis.

#### CASE REPORT

A 19 years old, G2P1L0/LCB - 1 year/previous IUD, 35 weeks GA referred from private hospital. Patient came with complaints of right-sided loin pain spasmodic in nature for 1 week on and off. Pain was not radiating/not relieved by rest/drugs. No c/o dysuria; no h/o abdominal trauma; no h/o stone disease or UTI during pregnancy, h/o fever on and off for past 4 days not associated with chills, h/o vomiting from past 4 days, 3 - 4 episodes/day-non projectile. Patient was able to feel foetal movements; no c/o labour pain/bleeding/draining PV/

reduced urine output. There was no significant past history. Clinical examination revealed right loin tenderness with no visible swelling. On general examination patient was afebrile, not anaemic, no pedal oedema, PR: 88/min, BP: 110/70 mmHg. P/A - uterus 32 weeks of gestation, not acting, head unengaged, FHR: 146/min. Investigations revealed normal renal function tests with urine routine showing 6 - 8 pus cells. USG showed single live intrauterine pregnancy of 33 weeks gestational age in cephalic presentation with liquor adequate. USG abdomen showed right-sided mild PCS dilatation, right upper ureter dilated with perinephric fluid collection (e/o fluid collection with internal septations and inflammatory changes noted adjacent to ureter). Impression was right ureteric obstruction with urinoma formation. MRI report showed hydroureteronephrosis on right side with dilated ureter traceable up to lower end without demonstrable calculus with perinephric urinoma, extending into peritoneal spaces with fluid collection in abdominal and pelvic peritoneum. Urologist's opinion obtained and suggested nil urological intervention needed at present and to continue with conservative management. If patient shows any symptoms of urosepsis, patient may need termination of pregnancy. Patient was treated by conservative method with bladder catheterisation and IV piptaz for 5 days. Strict I/O chart maintained and vitals monitored. As the urinoma did not reduce in size, patient was induced with Cerviprime gel. Patient went into labour and delivered by labour naturalis; an alive late preterm female baby 1.75 kg, postpartum period was uneventful. Baby healthy with mother on breast feeds. Urologist review obtained on 2nd postnatal day, they suggested repeat USG abdomen and pelvis. Repeat USG showed mild-to-moderate hydronephrosis with no e/o perinephric collection, no e/o intrarenal/ureteric calculi. Perinephric fascial thickening with inflammatory changes present. Patient was discharged with nil complaints and a healthy baby.

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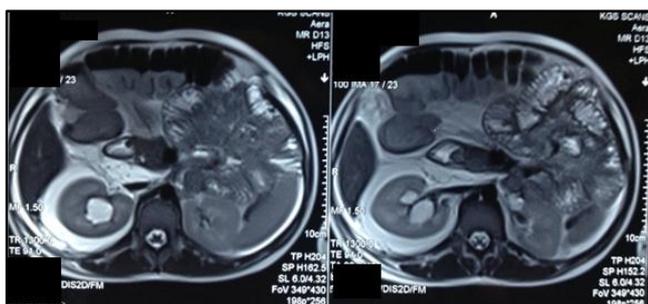
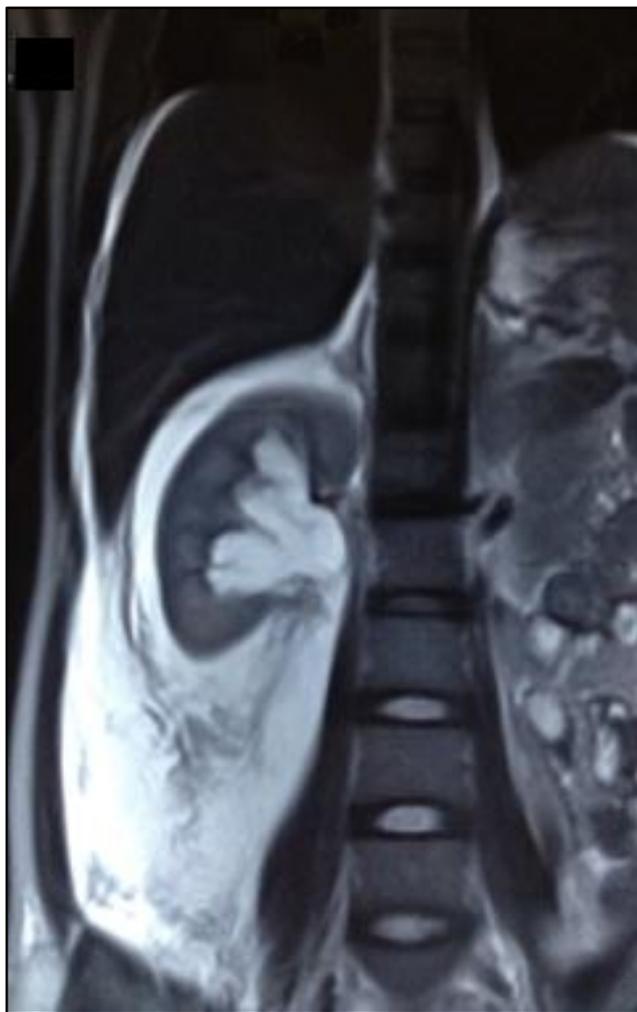
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**MRI Picture showing Perinephric Urinoma**

#### DISCUSSION

Urinoma is extravasation of urine in retroperitoneal space, which later on encapsulated by chronic immune response. Mainly caused by external trauma to urogenital tract and endosurgical procedure and also by obstructive uropathy like pregnancy, pelvic mass, PUJ obstruction, congenital urethral

disease, enlarged prostate causing chronic bladder retention of urine. Reports of urinoma is rare in pregnancy. Maternal urinoma is an important differential diagnosis for flank pain during pregnancy. Spontaneous perinephric urinoma in pregnancy is caused by obstruction at pelvis aided by hormonal influence. Obstruction leads to increase in intrapelvic pressure, pyelosinus back flow and subsequent rupture [Increased porosities] of calyceal fornix, which results in extravasation of urine. This extravasation is mainly in subcapsular space or perinephric space bound by Gerota's fascia.<sup>1</sup> If condition is severe, urine may cross midline travel diffusely below the inguinal ligament to involve pelvis, thigh, buttock, scrotum and also perineum. In pregnancy, urinary ductal system dilatation or hydronephrosis is common and more common on right side. This is completely resolved in postpartum period. Initial investigation for urinoma is USG supplemented by CT abdomen with or without contrast. The CT scan is better, especially delayed and contrast films to demonstrate the relationship between urinoma and the urogenital tract and fascial planes.<sup>2</sup> If urinoma is left untreated it can lead to serious complications like perinephric abscess, urinary granuloma, retroperitoneal fibrosis, paralytic ileus, systemic sepsis and electrolyte imbalance. Whenever diagnosed, early management has to be considered until complete resolution. Management depends upon urinoma size and associated complaints. Small sized urinomas are managed conservatively, whereas larger and symptomatic urinomas need intervention with percutaneous catheter drainage under sonographic or CT guidance (Done in most dependent position).<sup>3</sup> If output is decreased, catheter is removed and followed up with USG till resolved. In the case not resolved, additional nephrostomy with or without a ureteral stent will be considered.

#### CONCLUSION

Spontaneous perinephric urinoma developed during pregnancy and detected in antenatal or postnatal period is rare and caused by persistent mechanical obstruction of ureters at narrow pelvic brim by enlarged gravid uterus aided by physiological hormonal dilatation of the urinary system. So, a woman presenting as persistent abdominal swelling and flank pain in the antenatal or postnatal period, large urinomas should be a consideration. Quick and prompt diagnosis is mandatory to prevent serious complication and to preserve renal function as well.

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