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Perinephric Urinoma in a Woman During the Postpartum Period: A Case Report

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ABSTRACT

A urinoma is a continued perinephric or peripelvic extravasation of urine leading to the formation of encapsulated retroperitoneal urine collection due to the disruption of the urinary collecting system. Non-obstetric urinomas are usually the result of trauma, a urologic procedure, infection, and nephrolithiasis. We report a case of perirenal urinomas that were detected during the postpartum period.

INTRODUCTION

Urinomas are a continued perinephric or peripelvic extravasation of urine leading to the formation of an encapsulated retroperitoneal urine collection due to the disruption of the urinary collecting system [1]. A non-obstetric urinoma is usually the result of trauma, a urologic procedure, infection, and nephrolithiasis [2]. We report a case of perirenal urinomas that were detected during the postpartum period.

CASE REPORT

A 25-year-old female presented with the complaint of swelling on the right side of the abdomen and a dull, aching pain. The patient gave birth 5 weeks before via vaginal delivery. There was no history of trauma or stones, and no documented urinary tract infection during her pregnancy. The physical examination showed a soft lump on the left side of the abdomen. The lump was dull on percussion and had a smooth surface. The urinalysis yielded normal results, and the urine culture was negative. Her serum creatinine level was 0.6 mg/dL. Ultrasonography showed echo-poor collection around the kidneys. An abdominal computed tomography (CT) scan revealed poor attenuation with a large amount of collection around the left kidney. Perinephric collection was seen on the right side but less than the left. However, there was no evidence of hydronephrosis. Percutaneous drainage was performed on the left side. Approximately 4 000 ml of amber colored fluid was drained. After 7 days, the ultrasonography showed that the urinoma had resolved. There was no longer any urinary leakage via the drainage catheter, which was consequently removed. The patient was asymptomatic at the 6-week follow-up.

DISCUSSION

Hydronephrosis during pregnancy is quite common and is often associated with mechanical obstruction of the ureters at the pelvic brim [3]. Although this is present in over 80% of pregnant women, the ureter and bladder are usually restored to normal within several weeks postpartum [4]. Usually, the right ureter is much more affected than the left ureter, which is somewhat protected by the sigmoid colon and its mesentery [4].

Maternal urinoma is thought to develop secondary to a rupture of the calyceal fornix [5]. It occurs when renal pelvic pressure exceeds a critical level between 20 and 75 mm Hg due to ureteral or renal compression [6-9]. Urinomas in postpartum women may be due to acute or chronic retention [2].

Urinomas during pregnancy are an acute event, which is triggered by acute obstruction of both ureters during pregnancy and childbirth. Forniceal rupture secondary to ureteral obstruction and hydronephrosis is an established route of urinoma formation. In our case, the absence of hydronephrosis

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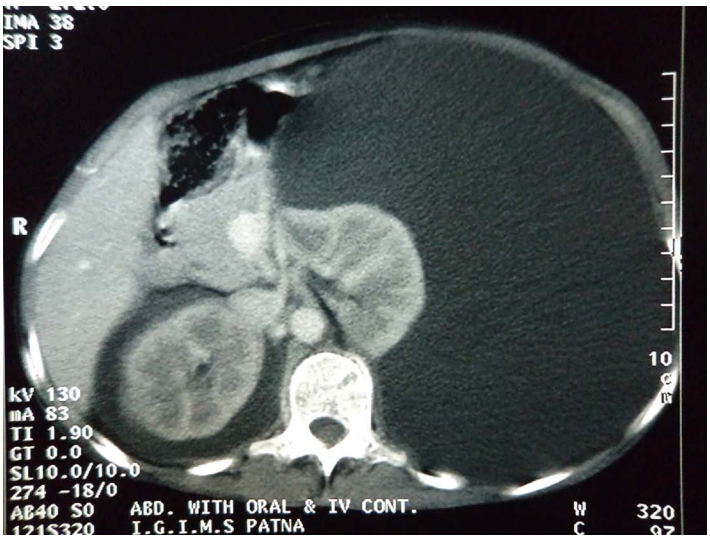
Figure 1. Urinoma imaging.



on imaging is presumably due to a time gap between the acute event of obstruction and the clinical presentation of the patient (6 weeks) during which hydronephrosis probably cleared.

The clinical presentation of hydronephrosis is flank pain and tenderness associated with gastrointestinal distress. These symptoms are similar to those of other obstetric and surgical emergencies such as appendicitis, cholecystitis, nephrolithiasis, and/or acute hydramnios [10]. Occasionally, increasing hydronephrosis can lead to retroperitoneal urinary extravasation and urinoma formation. Such a complication may lead to a perinephric abscess, peripelvic urine granuloma, or retroperitoneal fibrosis [11,12].

Reports of bilateral urinoma in connection with pregnancy are very rare in the literature [13]. Prompt diagnosis and management of urinary extravasation is very important and urgently requires measures to prevent such complications. Ultrasonography is indispensable for a diagnosis, and CT scanning may also aid in the diagnosis [14,15].

A perinephric urinoma appears on sonography as a homogenous collection of anechoic fluid. The treatment of a urinoma depends on the urinary extravasation cause and the degree to which the functioning of the kidney is affected. The treatment goals are to preserve renal function, relieve pain, and allow the ruptured site to heal [16].

In most cases, small urinomas will reabsorb without intervention. If urinomas are large or persist for several days, drainage of the urinoma should be considered. If a urinoma does not diminish despite an adequately positioned percutaneous drainage catheter, decompression of the pelvicalyceal system must be done in order to prevent continuous enlargement [15].

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