

## A RARE CAUSE OF INTRAABDOMINAL MASS: GIANT HYDRONEPHROSIS

### *NADİR BİR KARINİÇİ KİTLE NEDENİ: DEV HİDRONEFROZ*

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#### ABSTRACT

Giant hydronephrosis is a term used to describe a hydronephrotic kidney with more than one litre of fluid in the renal collecting system. It is a rare entity and often misdiagnosed clinically. It usually presents with vague clinical symptoms mimicking a variety of cystic lesions of the abdomen. We report a 39-year-old man with giant hydronephrosis presenting with a huge intraabdominal mass, and the diagnosis and management of this case are discussed with relevant literature.

**Key words:** Giant, hydronephrosis, diagnosis, management.

#### ÖZET

Dev hidronefroz böbrek toplayıcı sisteminde 1 litreden fazla sıvı birikmesi olan hidronefrotik böbreği tanımlamak için kullanılan bir terimdir. Nadiren görülmekte ve sıklıkla klinik tanı atlanmaktadır. Genellikle belirgin olmayan klinik semptomlar ile seyretmekte, karınıçi kistik lezyonları taklit etmektedir. Dev karınıçi kitlesi olan 39 yaşındaki dev hidronefrozlu bir erkek hasta sunulmuş ve bu olgunun tanı ve tedavisi ilgili literatür ile tartışılmıştır.

**Anahtar kelimeler:** Dev, hidronefroz, tanı, tedavi.

#### INTRODUCTION

Giant hydronephrosis is a rarely encountered entity. It is defined when the renal pelvis contains more than one liter of urine (6). Giant hydronephrosis is seen more on the left than the right, and more commonly in males than females. Typical etiologies include uretero-pelvic junction obstruction (UPJ), congenital abnormalities, or Stones (7,2). It usually presents with vague clinical symptoms mimicking a variety of cystic lesions of the abdomen. A high degree of clinical suspicion is required to achieve the diagnosis (5). Herein, we report a case of giant hydronephrosis because of its rarity and mimicking the other intraabdominal cystic masses.

#### CASE

A 39-year-old man was referred to us with recurrent episodes of nausea and mild abdominal pain during the previous three months. The physical examination revealed a large non-tender cystic mass on the right side of abdomen. Complete blood count, liver function studies, BUN and creatine levels were within normal limits. Urine analysis was normal. Ultrasound scan (US) revealed a huge right cystic mass occupying the abdomen and compensatory hypertrophy of the left kidney. Intravenous urography (IVU) was performed and showed a hypertrophy of the left kidney, however, there was no contrast medium excretion on the right side. Computed Tomography (CT) (Figure 1) revealed a huge right cystic mass (24x16 cm) with no evidence of renal parenchyma occupying the abdomen displacing the bowel to the left.



**Figure 1.** Pre-operative CT shows a huge right cystic mass (24x16 cm) with no evidence of renal parenchyma occupying the abdomen.

Simple nephrectomy was performed and approximately 2100 ml fluid was drained from the pelvicalyceal system. On gross appearance, a narrowed segment of the ureter at the ureteropelvic junction and severe dilatated pelvicalyceal

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system were observed. The patient had an uneventful postoperative period and was discharged on the 7<sup>th</sup> postoperative day. Histopathological examination of the cystic mass revealed severe dilatation of the pelvicalyceal system with chronic pyelonephritis. Post-operative CT showed that right abdomen was filled with small intestinal bowel (Figure2).



**Figure 2.** Post-operative CT reveals that right abdomen was filled with small intestinal bowel

## DISCUSSION

Huge intraabdominal mass is always a diagnostic dilemma (5). Giant hydronephrosis is an unusual cause of huge intraabdominal cystic mass. The common differential diagnoses include ovarian cyst, pseudo-pancreatic cyst, mesenteric cyst, hepatic cyst and loculated peritoneal collection associated with tuberculosis or cirrhosis of the liver (7,2,5). Abdominal US is the firstline diagnostic approach to suspected hydronephrosis. Although diagnosis is readily revealed by US in most patients, it may sometimes be confused with other cystic masses. In such cases, IVU, CT and magnetic resonance imaging (MRI) may be helpful in the differential diagnosis (7,8). In the present case, IVU showed non-functioning right kidney and a hypertrophy of the left kidney. US revealed a huge cystic mass occupying of the right abdomen, and CT showed a huge right cystic mass with no evidence of renal parenchyma. These diagnostic modalities were helpful for diagnosis, however, accurate diagnosis of the giant hydronephrosis challenging due to the atrophy of the renal parenchyma associated with chronic obstruction. The accurate diagnosis of this case was made on intraoperative gross appearance and histopathological examination.

The management of giant hydronephrosis depends on the presence or absence of sepsis, and on residual renal function in the obstructed kidney and the contra-lateral renal unit. The

hydronephrosis causes compression of the renal parenchyma, often with only a thin rim of renal cortex remaining, which leads to a non-functioning kidney (1). Similarly in this case, simple nephrectomy is the treatment of choice in most cases, due to the advanced deterioration of the renal unit. Nevertheless, in some cases, in compromised patients, percutaneous drainage may be necessary as previous or definitive treatment to avoid changes in the hemodynamic balance secondary to the sudden abdominal decompression. Rarely, if renal function is preserved in giant hydronephrosis, pyeloplasty, calycoureterostomy, calycozystostomy, and Boari flap calycovesicostomy can be considered (3). Observation and stents are generally reserved for those in whom surgery may be hazardous, for example in patients with co-morbidity or a solitary kidney. Laparoscopic nephrectomy is a good alternative to open surgery for giant hydronephrosis and significantly reduced the morbidity of surgery. A retroperitoneal approach is feasible, despite the large amount of retroperitoneal space occupied by these hugely dilated kidneys. Recently, laparoscopic nephrectomy for the management of giant hydronephrosis in pregnancy has also been reported with successful results (4).

In conclusion, giant hydronephrosis is rare. Like this case, an accurate diagnosis of giant hydronephrosis may be challenging due to the atrophy of the renal parenchyma. Therefore, any abdominal cystic mass should include the differential diagnosis of a possible giant hydronephrosis. Simple nephrectomy may be performed for the management of giant hydronephrosis because of non-functioning kidney.

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