

# Supernumerary Kidney Stone Presenting as Abdominal Pain and Hematuria: Case Report

## Karın Ağrısı ve Hematüri ile Gelen Aksesuar Böbrek Taşı

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**ABSTRACT** Supernumerary kidney is a rare anomaly and generally it is incidentally detected. It is a definitive accessory organ with its own collecting system, blood supply, and distinct encapsulated parenchima. The real incidence of supernumerary kidney remains unknown, but most cases are in males, are unilateral and on the left side. Different pathologic conditions are presented to affect supernumerary kidneys and they may be associated with malformations of the upper urinary tract and genital tract. The diagnosis usually difficult but it may present with symptoms because of stones, tumours and infections. If supernumerary unit small and dysplastic, it may easily escape detection. In this case report, supernumerary kidney presented with abdominal pain and hematuria.

**Key Words:** Abnormalities; kidney calculi; hematuria; abdominal pain

**ÖZET** Aksesuar böbrek, tesadüfen saptanan nadir bir ürolojik anomalidir. Genellikle kendi toplayıcı sistemi, kanlanması ve belirgin bir parankim yapısı mevcuttur. Gerçek insidansı net bilinmemekle birlikte birçok vaka genelde erkeklerde, solda ve tek taraflıdır. Aksesuar böbrek oluşumu sıklıkla üst üriner sistem ve genital sistem malformasyonları ile birlikte görülür. Nadiren saptanmasına rağmen bazen renal taş, tümör ve enfeksiyonlarla da belirlenebilir. Aksesuar böbreğin yapısı küçük ve diplastik ise kolayca belirlenemeyebilir. Bu vaka takdiminde karın ağrısı ve hematüri ile gelen aksesuar böbrekli bir hasta tartışılmıştır.

**Anahtar Kelimeler:** Anormallikler; böbrek taşları; hematüri; karın ağrısı

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**C**ongenital anomalies of the kidney and urinary tract are part of a family of diseases with different anatomical origins. Supernumerary kidney (SNK) is an extremely rare anomaly and fewer than 80 cases have been reported in the literature over the years. Occasionally it may present with symptoms because of calculi, tumours and infections. Supernumerary unit if small and dysplastic may easily escape detection. Usually the supernumerary kidney is located caudally to the kidney of the same side and is associated with bifid ureter or more infrequently a double ureter.<sup>1,2</sup>

The supernumerary kidney is a definitive accessory organ with its own collecting system, blood supply, and significant encapsulated parenchima.

This anomaly is present at birth, it is seldom symptomatic, but may become symptomatic in early adulthood.<sup>3</sup>

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We presented supernumerary kidney case whose stone and hydronephrosis.

## CASE REPORT

A 22 year-old man with hematuria and abdominal pain admitted to our clinic. There was no family history of kidney disease. Physical examination was unremarkable except pain. Urine samples showed hematuria without urinary infections. Bilateral kidneys were normal with ultrasound detection but we found a left extra ectopic kidney and 22 mm kidney stone under his left kidney.

The patient underwent computed tomography (CT) scanning of the abdomen/pelvis without contrast, which showed him to have a extra left kidney with hydroureteronephrosis and renal stone

(Figure 1). After intravenous pyelography (IVP), we detected ectopic left ureter with termination in the prostatic urethra (Figure 2). Ectopic kidney has rotation anomalies. After the hydration and analgesic treatment the patient was better. We decided to perform laparoscopic pyelolithotomy for extra renal stone treatment and the patient was referred to another center.

## DISCUSSION

Many hypotheses have been proposed about embryological processes, which lead to supernumerary kidneys, but none has been proved. Most theories suggest premature division of ureteric buds or coming off of two buds from the Wolffian duct.<sup>4</sup>

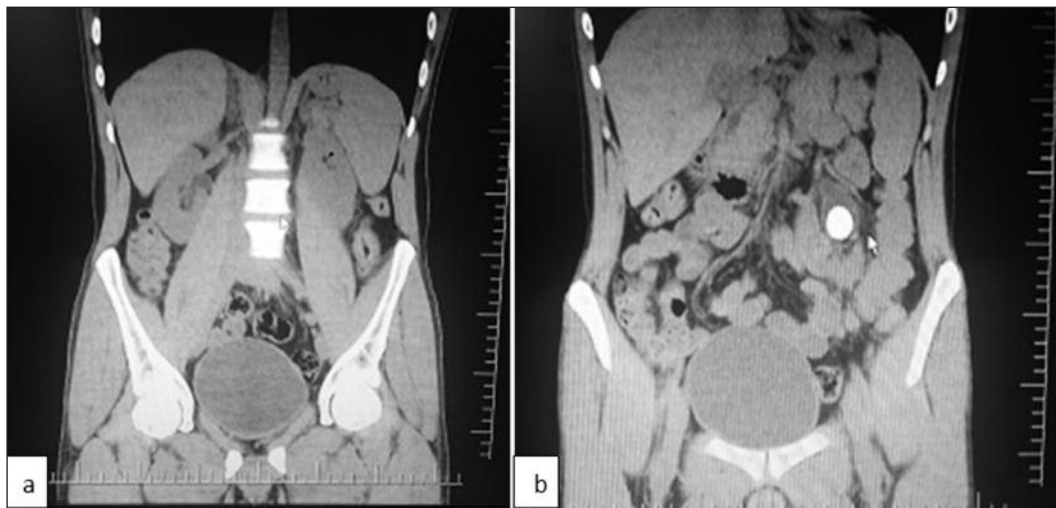


FIGURE 1: CT scans without contrast **a)** bilateral normal kidney; **b)** left supernumerary kidney with stone.



FIGURE 2: IVP films **a)** without contrast; **b)** after 10 minutes, **c)** after 20 minutes.

Most commonly they are located on the left side of the abdomen, caudal to normal kidney.<sup>5</sup> However, the position of the extra kidney has been quite changeable from case to case. It may be located in front, behind, above, or below the normal kidney.<sup>2,6</sup> They can also be found in the iliac region or anterior to the sacral promontory.<sup>7</sup> Kusuma et al. reported a case of supernumerary kidney which presented as indirect inguinal hernia.<sup>8</sup>

It may have either a separate ureter or more commonly bifid ureters (53%).<sup>6</sup>

In our case the ureters were bifid. Rarely the

ureter of the supernumerary kidney may have an ectopic opening.<sup>9</sup>

Long-term follow up is recommended for asymptomatic cases of supernumerary kidney due to high rate of occurrence of complications and reported malignant change.<sup>10</sup> The modality and time interval of follow-up has not yet been reported. But review of literature suggests yearly sonography in asymptomatic cases and sonography with IVP are usually sufficient in symptomatic cases.<sup>3</sup> Suitable surgical procedure may be needed when supernumerary kidneys are affected by pathologic conditions and become symptomatic.<sup>11</sup>

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