Giant neglected hydronephrosis in an adult diagnosed after a blunt trauma: A case report

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ABSTRACT

Giant hydronephrosis is a rare urological condition which led to serious complication. We reported a rare case of giant hydronephrosis in a 21 years old male patient with no known medical issues diagnosed after a blunt trauma. Computed tomography scan of the abdomen and pelvis showed a right giant hydronephrosis with no renal parenchyma. Simple nephrectomy with open surgery was performed. Pathology report concluded that it is a neglected ureteropelvic junction obstruction. Follow-up for three months showed no complains.

1. Introduction

The vast majority of renal injuries are caused by blunt trauma and more than 90% of renal injuries in the adult population result from blunt trauma.1

The presence of an abnormality further predisposes the kidney to severe injury even in the setting of relatively minor trauma.2

Ureteropelvic junction (UPJ) obstruction, a major cause of obstructive uropathy and the most frequently encountered asymptomatic congenital anomaly of the urinary tract, is one of the pre-existing abnormalities most found after renal trauma.1

We present a case of an adult with non-symptomatic right ureteropelvic junction obstruction diagnosed incidentally after a blunt trauma, which led to a nephrectomy.

2. Case presentation

A 21-year-old male presented to the emergency department after 3 h of a motorcycle accident and complained of abdominal pain and dark urine. He had no loss of consciousness, vomiting, or breathing problems. Past medical history was unremarkable.

On physical examination, vital signs were as follows: blood pressure was 115/65 mmHg, pulse was 102/min, and spo2 was 94%. Abdominal examination revealed moderate tenderness. Laboratory findings are shown in Table 1.

Abdominal and pelvis ultrasound revealed a small amount of free fluid intrabdominal and giant right renal hydronephrosis with no clear borders of the right kidney.

Computed tomography (CT) scan confirmed the findings of the ultrasound with retroperitoneal fluid collection (Fig. 1).

Based on radiology findings and after taking patient consent, we performed laparotomy.

Intraoperative findings showed a neglected right renal hydronephrosis with no apparent renal parenchyma. As a result, we performed a right nephrectomy. No complications happened during surgery.

Next, we admitted the patient to the intensive care unit (ICU) for monitoring. Daily laboratories and abdominal ultrasounds were unimportant. After two days, we sent him to the urological ward. The course after surgery was not eventful. Later, we discharged the patient in a good state. Follow-up for three months revealed no significant findings. The pathologist reported that it was right renal hydronephrosis secondary to undiagnosed ureteropelvic junction obstruction.

3. Discussion

Renal injuries account for 8–10% of all blunt abdominal injuries, and they are twice as prevalent in children as in adults.3 Minor renal traumas might be aggravated by pre-existing renal lesions (PERL), such as UPJ obstruction. PERL, on the other hand, is rare to be discovered incidentally during evaluation and appears to be more frequently associated with children than it is with adults, with incidence rates ranging from 12.6 to 35% and (4.4–19%) respectively. Although one of the most detected pre-existing abnormalities following renal trauma is ureteropelvic junction obstruction, the diagnosis is generally delayed due to...
In our case, the patient presented 3 h after a trauma, and he had never previously complained of any renal or abdominal issues. Ultrasoundography is the first-line imaging modality for evaluating patients with abdominal trauma and for renal injuries. Giant hydronephrosis was observed as an incidental finding in the US, which was performed as the initial assessment after trauma. Following US, a computed tomography (CT) scan of the abdomen and pelvis without contrast was done, and it confirmed the finding, in which both revealed giant right hydronephrosis with the loss of renal parenchyma.

We decided to perform laparotomy. Intraoperatively, right renal hydronephrosis with loss of renal parenchyma was found. Simple nephrectomy was the choice of treatment in our case as its the standard treatment in patients with a nonfunctioning kidney with loss of renal parenchyma.

The post-surgery course was smooth. We refer the patient to the ICU for two days, and then he was sent to the urology ward. The daily labs revealed no significant results. Later, we discharged the patient in a good condition. A three-month follow-up revealed no notable complications.

4. Conclusion

Incidental finding of giant hydronephrosis due to neglected ureteropelvic junction obstruction in an adult after trauma is a rare entity. Investigations like ultrasound and computed tomography for the abdomen and pelvis help reach the diagnosis. In such cases, nephrectomy could be the treatment if the kidney has no parenchyma.

References

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