Multislice Computed Tomography (MSCT) of Blunt Abdominal Trauma: Incidental Findings Related to the Genitourinary Tract

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Introduction
MSCT is currently the imaging modality of choice in the assessment of hemodynamically stable patients with blunt abdominal trauma\(^1\).

Widespread use of this modality can reveal incidental findings that vary in their importance, from trivial lesions to findings that may alter the management of these trauma patients\(^2\).

Aim
To determine the frequency of incidental findings related to the genitourinary tract at MSCT of blunt abdominal trauma.

To determine the effect of these findings on subsequent patient’s management.

Method
All MSCT examinations done for patients with blunt abdominal trauma from January 2008 to December 2009 were retrospectively reviewed.

Demographic data and incidental findings related to the genitourinary tract were recorded.

The subsequent management of these findings was reviewed from patient’s case note.

Result
A total of 151 cases were included in the study. Age ranges from 2 to 84 years, mean age was 26.4 years.

Age distribution:

Sex distribution:

<table>
<thead>
<tr>
<th>The findings</th>
<th>No. of cases</th>
<th>Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simple cortical cysts</td>
<td>15</td>
<td>Conservative management</td>
</tr>
<tr>
<td>Renal calculus without hydronephrosis</td>
<td>2</td>
<td>No immediate active intervention</td>
</tr>
<tr>
<td>Abnormal renal orientation</td>
<td>1</td>
<td>Conservative management</td>
</tr>
<tr>
<td>Unilateral hydronephrosis</td>
<td>1</td>
<td>Further investigations and surgical intervention was performed</td>
</tr>
<tr>
<td>Bilateral hydronephrosis</td>
<td>1</td>
<td>Further investigations and active intervention was needed</td>
</tr>
<tr>
<td>Transvesical kidney</td>
<td>1</td>
<td>Further investigation but no active surgical intervention was needed</td>
</tr>
</tbody>
</table>

Case 1:
A 47-year old man involved in a MVA with multiple fractures (bony pelvis and femur) and haematuria. MSCT abdomen showed contusion of urinary bladder with no other injury and no haemoperitoneum.

Incidental findings of transvesical left kidney (arrow) as seen on coronal reformatted image (Image A). Scannogram (Image B) showed, focal elevation of left hemidiaphragm (arrow). Diagnostic laparoscopy was performed to rule out traumatic diaphragmatic hernia. It confirmed the ectopic kidney with focal diaphragmatic evagination.

Discussion
Simple renal cyst is a common findings (12.4%) in this study, however the incidence is lower compared to previous reported series (24-40%).\(^3\) It is well documented that the incidence of simple renal cyst is higher in older patients.\(^3\) As many of our trauma patients were young adults (in comparison with previous studies using MSCT performed for other causes), the lower incidence of simple renal cyst is expected.

In two cases of incidental findings of renal calculi, no obstructive uropathy was seen and no immediate further investigations were needed.

There were three cases of congenital anomaly, one did not require surgical intervention (Case 2), one required surgical correction (Case 3) and one case posed a challenge to the managing team with a co-incidental findings of a rare form of congenital anomalies that was confused with conditions related to the trauma itself (Case 1).

Conclusion: Incidental findings related to the genitourinary tract in MSCT of blunt abdominal trauma were common. However, those requiring a surgical intervention are rare.

References: