Supratrochlear foramen: an incidental finding in the foothills of Himalayas

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Abstract

Introduction
The lower end of the humerus has two large fossae, the olecranon fossa and the coronoid fossa, separated by a thin bony plate that rarely bears an opening known as supratrochlear foramen. Supratrochlear fracture of humerus is very common in the paediatric age group, and it can alter the line of fracture as well as management. Due to its clinical relevance, its presence cannot be ignored. This report discusses a case of a supratrochlear foramen.

Case report
During routine osteology demonstration, we encountered the humerus with supratrochlear foramen. Morphometric analysis was done and compared with the previous literatures.

Conclusion
This foramen can alter the radiological findings during examination and may get misdiagnosed as osteolytic lesion or cystic lesion. Supratrochlear foramen can alter the line of fracture as it is linked with a small medullary canal, which can modify our decision of point of entry of the nail in the medullary nailing procedure. Therefore, its clinical importance cannot be ignored.

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Figure 1: Anterior view showing the oval-shaped STF at the lower end of humerus.

Case Report

Conclusion

In radiological examination, STF is radiolucent and may be misinterpreted as cystic or osteolytic lesion; therefore it is essential for the orthopaedicians or radiologists to have prior knowledge of STF.

References


Discussion

STF may produce stress and alter fracture of line patterns associated with supracondylar fracture. It may also increase tendency of supracondylar fracture even in case of relatively low-energy trauma.

Table 1 Comparison of STF dimensions

<table>
<thead>
<tr>
<th>Reference</th>
<th>Year</th>
<th>Mean transverse diameter (mm)</th>
<th>Mean vertical diameter (mm)</th>
</tr>
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<tbody>
<tr>
<td>Nayak et al.</td>
<td>2009</td>
<td>6.55 (left), 5.99 (right)</td>
<td>4.85 (left), 3.81 (right)</td>
</tr>
<tr>
<td>Krishnamurthy et al</td>
<td>2011</td>
<td>6.5 (left), 5.2 (right)</td>
<td>4.7 (left), 4.0 (right)</td>
</tr>
<tr>
<td>Veerappan et al.</td>
<td>2013</td>
<td>7.94 (both left and right sides)</td>
<td>6.01 (both left and right sides)</td>
</tr>
<tr>
<td>Present case</td>
<td>2013</td>
<td>6.22 (both left and right sides)</td>
<td>4.64 (both left and right sides)</td>
</tr>
</tbody>
</table>

Shapes of STF were classified as round, oval and triangular with sieve-like aperture according to Veerappan et al., with the oval shape being most common. It shows that the shape of the foramen in the present case is in accordance with the results of Veerappan et al. and Nayak et al. Our results were not consistent with the findings of Veerappan et al. (Table 1). Shapes of STF were classified as round, oval and triangular with sieve-like aperture according to Veerappan et al., with the oval shape being most common. It shows that the shape of the foramen in the present case is in accordance with the results of Veerappan et al. and Nayak et al.

Distance of STF from medial epicondyle in the present study is 24 mm and from lateral epicondyle is 29 mm. The mean distance from medial epicondyle was calculated as 26.1 and 28 mm on left- and right-side humerus, respectively, while it was reported as 23.84 mm by Veerappan et al. This is almost similar to our case, but the distance from lateral epicondyle is 5 mm more than the case reported by Veerappan et al. as 24.06 mm.

Figure 2: Posterior view showing the oval-shaped STF at the lower end of the humerus.