Vertical cleft through the superior articular process of the lumbar spine: fracture or anomaly?

Case report

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A case is reported in which roentgenograms of the lumbar spine showed a vertical cleft in the superior articular process of the L-5 vertebra. The cleft seemed to be of no clinical significance.

KEY WORDS: cleft formation, lumbar spine, vertebral anomaly

Discussion

Cleft formation of the vertebral arch is often seen in clinical practice, and the well-known sites of the cleft are illustrated in Fig. 2. Our case and that reported by Omar and Levinson clearly demonstrate the cleft through the superior articular process of L-5. We are of the opinion that the articular process of the lumbar spine should be considered one of the sites of cleavage in the posterior vertebral arch. Willis also briefly mentioned the existence of a cleft near the superior articular process of the lumbar spine, but, because he did not fully document the anomaly, we cannot state whether his case was similar to ours.

Omar and Levinson suggested that the cleft was a fracture caused by rotational stress and torsion. Our patient could not recall any severe trauma, and had never been engaged in strenuous sports activity or work which could be related to a possible fracture. Furthermore, there was an apparent hypoplasia of the inferior articular process of L-4 which could be more easily interpreted as a congenital anomaly than as a result of trauma. Thus, it is possible that the cleft was due to a congenital anomaly, possibly through a double ossification center or a division of an ossification center during the embryonic stage. Existence of such double ossification centers in the lumbar neural arch is evident from Willis' report, although he considered...
Articular process defect of lumbar spine

The cleft in our patient was an incidental finding and of no clinical significance, since the lumbago was of short duration and of recent occurrence, although the cleft of the superior articular process of L-5 and hypoplasia of the inferior articular process of L-4 had the appearance radiologically of having existed for years.

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References


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