

A Case Report: L4 Spondylolysis in a 15-Year-Old Model Girl Frequently Wearing Heels

Myeong-Shin Kwak, M.D., Myung-Han Ryu, M.D.

Min-Seok Lee, M.D., Sang-Jun Suh, M.D., Yoon-Soo Lee, M.D., Jeong-Ho Lee, M.D., Soo-Ho Cho, M.D.

Department of Neurosurgery, Daegu Fatima Hospital, Daegu, Korea

Introduction

The aim of this study was to highlight the significance of diagnosing and managing L4 spondylolysis, a relatively rare form of spondylolysis, in adolescents who regularly engage in activities that apply stress to the hip joint, like wearing high heels frequently. We focused on raising awareness about its occurrence, diagnosis, and effective treatment methods, particularly in the context of initial uncertain diagnosis and persistent lower back pain.

Methods

In this study, we introduce a case of a 15-year-old girl who was regularly engaged in modeling activities and frequently wore high heels, visited the hospital for persistent lower back pain. At the first visit, no definite abnormalities were found in the radiography performed (Fig. 1), but with the patient's persistent pain, further diagnostic procedures were carried out. L4 spondylolysis was confirmed through computed tomography (CT) (Fig. 2).



Figure 1

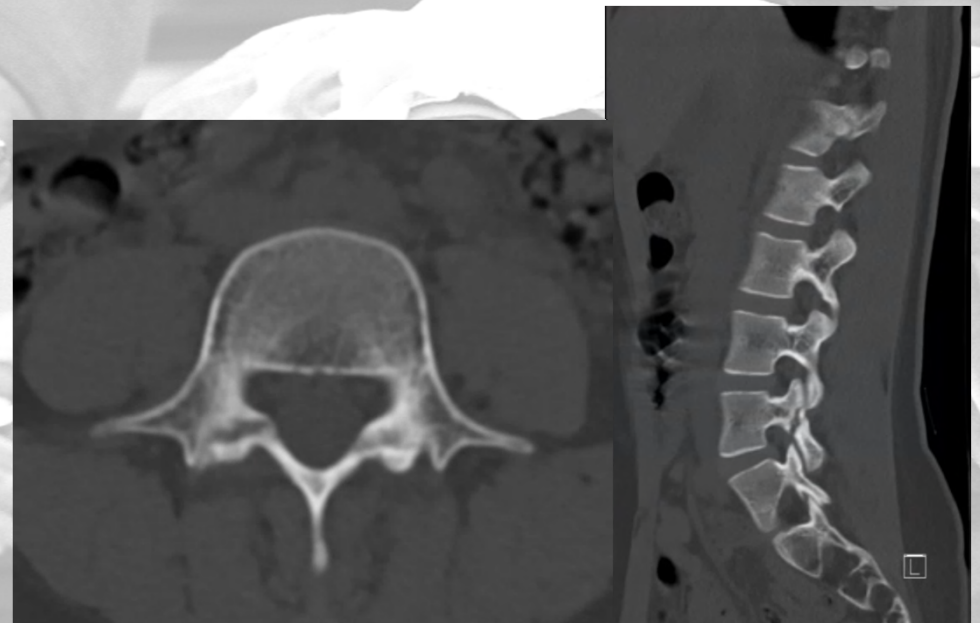


Figure 2

Results

This case underlines the importance of spondylolysis occurring in adolescents who engage in activities that normally apply hip stress. It emphasizes the importance of including spondylolysis in the differential diagnosis from the radiographic results, which were not closely examined at the initial diagnosis. The patient showed significant symptom improvement after receiving conservative treatment, including non-steroidal anti-inflammatory drugs, activity modulation, and physical therapy.

Conclusion

While spondylolysis at the L4 level is rare, it should always be included in the differential diagnosis when patients present persistent lower back pain. Special attention should be paid at the initial diagnosis, especially in adolescents engaged in specific activities, such as frequently wearing high heels like models. This case confirms that abnormal findings can be overlooked in initial radiography. CT can serve as a more useful tool for accurate diagnosis than magnetic resonance imaging when initial diagnosis is uncertain. The importance of managing adolescent spinal health is emphasized, and further research is needed to explore more effective treatment methods and causes of spondylolysis.