

## Dilemma in stress fractures

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We read with interest the article by Fottner et al. [3], concerning stress fractures presenting as tumours, where the authors described pain as the first symptom as well as the index finding for their inclusion criteria. But it is worth mentioning that atypical presentations of stress fractures are known and pain may be preceded by swelling/fullness or other signs of inflammation [1, 5].

The article emphasises the detection of a fracture line either on MRI or CT to differentiate between a tumorous condition and a stress fracture. Cortical abnormalities or fatigue lines only appear in advanced stages of stress

fractures (Fredericson's MR imaging classification of osseous stress injury; grade 4) and are not present in early grades 1–3 [4], where the diagnosis is primarily clinical. Moreover, as the authors have themselves mentioned, pathological fractures in tumour lesions do occur and in such cases the diagnostic dilemma deepens. Correlation to the clinical setting, sequential radiographs, and a careful study of the fracture characteristics (fracture line continuous with the cortex, extending into the intramedullary space, orientated perpendicular to the cortex and the major weight-bearing trabeculae [2]) help avoid this pitfall.

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Concerning the article by Fottner A, Baur-Melnyk A, Birkenmaier C, Jansson V, Dürr HR (2008) Stress fractures presenting as tumours: a retrospective analysis of 22 cases. *Int Orthop*. doi:10.1007/s00264-007-0488-5.

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