

Underestimated Spine Fractures on Tourist Boat Rides

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INTRODUCTION:

Compression fractures often result from axial loading greater than force tolerable by vertebral body^[1] Langkawi archipelago though being internationally known for its island-hopping motorboat cruises, spine fractures related to motorboat cruises are under-reported and not recognized as potential hazard.

REPORT:

3 cases of boat rides related spine fractures are reported. Patient A, a 45-year-old Japanese gentleman presented with sudden lower back pain while sitting in the middle of wave breaking boat. There was no lower limb numbness or weakness. Examination revealed midline thoracolumbar junction spine tenderness without neurological deficit. Plain radiograph revealed fracture AO-type A1 at L2 vertebra.

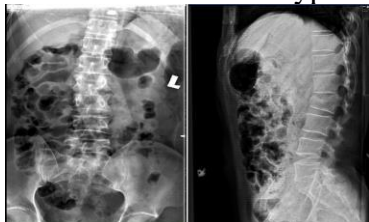


Figure 1: plain radiograph lumbosacral A

Patient B, a 26-year-old Chinese gentleman presented with sudden lower back pain while sitting in the front of a boat going over a huge sea wave. Midline thoracolumbar junction spine tenderness was present without neurological deficit. Plain radiograph revealed AO-type A1 at T11, T12 vertebrae.



Figure 2: plain radiograph lumbosacral B

Patient C, a 74-year-old Caucasian lady presented with sudden lower back pain while sitting in rear side of a wave breaking boat. Midline thoracolumbar junction tenderness without neurological deficit was noted. Plain radiograph revealed AO-type A1 at L1 vertebrae.



Figure 3: plain radiograph lumbosacral C

All three cases were treated with thoraco-lumbar brace.

Force transmission via flexion-compression mechanism more likely causes fractures at T10-L2 vertebra, owing to thoraco-lumbar spine transition with less compressive resistant.^[1] Proposed mechanisms of injury include sudden boat deck elevation hitting buttocks causing 'deck-slap' injury or patient being thrown in air then landed by rocking bow in crossing waves, while in flexed sitting position.^[1]

CONCLUSION:

Tourism motorboat excursions related spine injuries are well underestimated and precautions should be made to improve passengers' safety on boats.

REFERENCES:

1. May, A.T.; Bailly, N.; Sellier, A.; Avinens, V.; Huneidi, M.; Meyer, M.; Troude, L.; Roche, P.-H.; Dufour, H.; Dagain, A.; et al. Spinal Fractures during Touristic Motorboat Sea Cruises: An Underestimated and Avoidable Phenomenon. *J. Clin. Med.* 2023, 12, 1426