

Spinal Cord Injury during Windsurfing

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Summary

Two patients are described who developed severe pain in the thoracic region after windsurfing in rough weather. On examination there were signs of a thoracic cord lesion. Investigations revealed no evidence of cord compression and, since the symptoms and signs resolved spontaneously, an ischaemic aetiology is postulated.

Key words: *Windsurfing; Spinal cord injury; Spinal cord ischaemia.*

Introduction

Windsurfing is becoming increasingly popular. In rough weather it may impose considerable strain on the thoraco-lumbar spine, which may result in physical injury, even in athletic young men. We report two such individuals who sustained lesions in the thoracic cord whilst windsurfing.

Patient 1

An experienced 19-year-old ski-technician was windsurfing on a high sea with a strong wind and fell frequently. His feet were wedged in a foot-hold and he was wearing a 'waist-coat' with the harness attached to the mast by a cable. This enabled him to balance the craft by adopting a position of extreme lordosis (Fig. 1).

Soon afterwards he became aware of intense pain in the mid-thoracic region which was exacerbated by sneezing or movement of the spine. He noticed numbness of the left leg which lasted for 15 minutes, resolved, and then returned for two further 5-minute periods. There was no previous history of back pain or neurological disturbance. On examination he was athletic and muscular. He was tender over the T7/8 vertebrae and flexion of the spine was restricted. There was pyramidal weakness (M.R.C. Grade IV) in the left leg with exaggerated knee jerks and bilateral extensor plantar responses. The lower abdominal reflexes were decreased and there was a well defined sensory level on the left at T10. Investigations showed that the haematological indices, E.S.R., biochemistry,



Figure 1. Surfer balancing the craft by adopting a position of extreme lordosis.

serology, visual evoked responses (V.E.R.), brain stem evoked potentials (B.S.E.P.) and cerebrospinal fluid protein, sugar and cell count were all normal. X-rays of the thoracic spine showed lateral wedging of the T8/9 disc, but a myelogram was normal. He made a rapid recovery, his symptoms and signs having fully resolved after three months.

Patient 2

A fit 30-year-old, who was an expert windsurfer, developed back and chest pain whilst surfing with identical equipment on rough water. As a result he experienced difficulty in breathing and his legs felt weak and shaky. The back pain lasted for 12 hours and the following morning he was aware of numbness spreading from his right foot up to his chest. On examination he had a sensory level to pain and temperature at T7 on the right and increased tone with ankle clonus in the left lower limb. The left abdominal reflexes were absent. Investigations, which included a full blood count, E.S.R., biochemical screen, serology, V.E.R.'s, B.S.E.P.'s, examination of the cerebrospinal fluid and echocardiography, were normal X-rays of the thoracic spine showed degenerative changes with an area of calcification in the paravertebral soft tissue on the left at the T9/10 level. A myelogram and computerised tomography of the spine were normal. This patient also made a full recovery.

Discussion

Although injuries to the spinal cord as a result of diving into shallow water are

relatively common (Steinbruck and Paeslack, 1980), other injuries to the cord due to water sports are rare. Girard (1980) has described 13 cases of paraplegia due to decompression in scuba divers, but we know of no previously described spinal cord lesions due to windsurfing, although maxillo-facial (Re *et al.*, 1984) and eye damage (Volker-Dieben *et al.*, 1980) have been reported.

Both patients had clinical evidence of thoracic cord lesions, and in both instances the symptoms developed acutely during a form of exercise which imposes great strain on the spine. Both patients had abnormalities on the plain films of the thoracic spine in the vicinity of the cord lesion, but these changes, possibly attributable to excessive strains imposed by regular windsurfing, were clearly of longstanding. Myelography excluded cord compression and, since the symptoms came on suddenly and then resolved spontaneously, an ischaemic aetiology is postulated. Other causes, such as multiple sclerosis, cannot be totally excluded, but the normal CSF and evoked potentials and the absence of previous neurological episodes make this diagnosis unlikely. The cause of the ischaemia is unclear, but it is possible that exaggerated movements of the spine, in association with previous degenerative changes at the same site, might compromise flow in one of the radicular vessels that provide the arterial supply of the cord (Henson and Parsons, 1967).

Windsurfing in rough weather may result in injury to the spinal cord and this report emphasises one of the potential hazards of windsurfing in such conditions.

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Résumé

On décrit deux malades qui se maifestaient des douleurs terribles de la region thoracique après avoir fait de la planche à voile pendant un temps mauvais. Ils avaient les signes d'une blessure de la moelle épinière. Des examens ne révélaient pas de preuves d'une compression de la moelle épinière et, parce que les symptômes se sont résolus avec spontanéité, on postule une cause ischaémique.

Zusammenfassung

Man beschreibt zwei Patienten mit starken Schmerzen, der in der Brustgegend sich entwickelt hatte, nach windsurfing bei schlechtem wetter. Bei der Untersuchung sah es aus als ob das Rückenmark in der Brustgegend verletzt wäre. Eine nähere Untersuchung ergab kleine Beweise, daß das Rückenmark verdichtet war, und da die symptome und Anzeichen haben sich von selbst gelöst, postuliert man eine ischaemische Aetiologie.

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