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Letter to the Editor

Delayed Proximal Unilateral Arm Weakness Following a Fall Three Days Previously

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We read with interest the article by Ho *et al.* about an 84-year-old man with a history of arterial hypertension and osteoporosis who suffered a traumatic fracture of the upper endplate of C6, a rupture of the anterior longitudinal ligament above C5/6, and a disc herniation in this segment with consecutive vertebral stenosis. These changes were not visible on the initial spinal CT scan, but were visible four days later on the spinal MRI after the patient developed proximal weakness of the right arm ^[1]. He benefited from an emergency C5/6 discectomy and fusion ^[1]. The study is interesting, but some points should be discussed.

The first point is that the cause of the proximal weakness in the right upper extremity has not been sufficiently clarified. We need to know whether the muscle weakness is due to the spinal cord lesion identified in the MRI (Figure 2) or whether it was caused by vertebral stenosis at the C5/6 level. Since the patient had proximal muscle weakness, it is also conceivable that the weakness is due to plexopathy rather than radiculopathy or myelopathy. Radiculopathy is rather unlikely, as the muscles affected by the weakness are innervated by more than a single root. Knowing the level of the causative lesion is crucial for rehabilitation and assessment of the outcome.

The second point is the discrepancy in the description of the clinical picture of the index patient ^[1]. On the one hand, it is reported that the patient had retained sensitivity in both upper extremities, and a few sentences later it is described that the patient had residual paresthesia in the fingertips ^[1]. This discrepancy should be clarified. If the patient had no sensory disturbances before the operation, this could mean that the operation was complicated by the onset of sensory disturbances. It should also be clarified whether the paresthesia occurred in the right hand or in both hands.

The third point is that it was not reported whether the patient was examined by a neurologist or only by the doctor on duty in the emergency room during the initial examination. A neurologist would possibly be better able to assess whether there was already paresis of the right arm during the initial examination, which could have been overlooked due to inexperience or work overload. It should also be mentioned whether the tendon reflexes in the right extremity were preserved, exaggerated, diminished, or absent. We should also know whether pyramidal signs were present or not.

The fourth point is that there is no detailed discussion of when the muscle weakness occurred and was recognized by the patient. Was it already present immediately after the fall but not recognized by the patient or the family doctor because it was only mild, or did a second trauma occur (e.g., during sleep) that was not recognized by the patient and caused the fracture or tear of the anterior longitudinal ligament?

The fifth point is that the circumstances of the fall were not well explained ^[1]. Did the patient lose consciousness before or during the fall? Was a cerebral stroke and a seizure excluded as the cause? The CCT may overlook embolic stroke. Was a cerebral MRI performed? It is also conceivable that the fall was due to arrhythmias (e.g. paroxysmal atrial fibrillation) given the age of the patient. Was the cardiological work-up for arrhythmias or conduction defects normal? Was systolic function well preserved? Was the blood pressure normal?

Limitations of the study are that it was not reported which treatment the patient received for osteoporosis, whether blood pressure was well or poorly controlled, how cerebral or spinal cord stroke were excluded as the cause of right monoparesis, and whether a seizure, transitory ischemic attack, or syncope was the cause of the fall.

Finally, the caption of Figure 1 is inadequate. There was no severe stenosis of the "central canal," but the authors probably mean the "spinal canal." This should be corrected.

Overall, spinal trauma requires referral to a neurologist if the temporal course and correlation with the deficits remain unclear.

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References

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