



# Post-Traumatic Syringomyelia

## Post-Travmatik Sringomiyeli

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### ABSTRACT

Cases of post-traumatic syringomyelia could not be diagnosed until the advent of magnetic resonance imaging (MRI). In recent years, the incidence of detected cases of post-traumatic syringomyelia has increased. MRI has suggested an incidence of up to 22%. We describe a 21-year-old female who presented to our emergency services immediately after a fall, with grievance of weakness in the legs, and loss of sensation. Plain radiographs and a CT scan were normal. The MRI performed while she was in the emergency department (ED) showed a syringomyelic cavity extending from T6 to T8. The patient was hospitalised with the diagnosis of traumatic syringomyelia, in the neurology department. Intravenous pulse steroid therapy and anti-oedema therapy were initiated, and the patient was discharged with oral prednisolone on the seventh day of admission. The present article describes the case of a patient with post-traumatic syringomyelia that appeared immediately primarily without vertebral fractures. Patients presenting with post-traumatic syringomyelia after uncomplicated spinal fracture are very rare. In patients admitted to the ED as a result of trauma, post-traumatic syringomyelia should be considered even if there are no vertebral fractures.

**Keywords:** Post-traumatic syringomyelia, vertebral fracture, magnetic resonance imaging

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### ÖZET

Post-travmatik sringomiyeli vakalarına manyetik rezonans görüntüleme kullanılmaya başlanmasına kadar tanı konamıyordu. Son yıllarda, tanı konulan post-travmatik sringomiyeli vakalarının insidansı artmıştır. Manyetik rezonans görüntüleme sonuçlarına göre post-travmatik sringomiyeli vakalarının insidansı %22'nin üzerine çıkmıştır. Düşmeden hemen sonra acil servise bacaklarda güçsüzlük ve his kaybı şikayeti ile başvuran 21 yaşındaki bir bayan hastayı sunduk. Hastanın acil servise başvuru anında çekilen direk grafi ve tomografileri normaldi. Hastaya acil servisteyken çekilen manyetik rezonans görüntüleme T6 seviyesinden başlayıp T8 seviyesine kadar uzanan sringomiyeli gösterdi. Hasta post-travmatik sringomiyeli tanısı ile nöroloji kliniğine yatırıldı. İntravenöz pulse steroid ve anti ödem tedavisi başlanan hasta, yatışının yedinci gününde oral prednizolon reçete edilerek taburcu edildi. Travmadan hemen sonra post-travmatik sringomiyeli bulguları gelişen ve vertebra fraktürü tespit edilemeyen bir vakayı sunduk. Komplike olmuş, deplase vertebra kırığı olmadan post-travmatik sringomiyeli son derece nadirdir. Acil servise travma sonucu başvuran hastalarda, komplike olmuş vertebra fraktürü olmasa bile post-travmatik sringomiyeli akılda tutulmalıdır.

**Anahtar Kelimeler:** Post-travmatik sringomiyeli, vertebra kırığı, manyetik rezonans görüntüleme

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### Introduction

In 1963, Barnett et al. (1) described a series of eight patients, paraplegic from trauma at or below the fourth thoracic vertebral body, in whom a progressive loss of higher spinal cord function developed and gradually progressed so as to convert paraplegia into varying degrees of quadriplegia. Post-traumatic syringomyelia was reported with an incidence of 0.9 to 1.6% as a long-term sequela to spinal cord injury in the early 1980s (2, 3). Rossier reported that syringomyelia occurred in less than 3.2% of spinal cord injured patients (4). Until the advent of magnetic resonance imaging (MRI), cases could not be diagnosed. In recent years, with the availability of MRI scanning, the incidence of detected cases of post-traumatic syringomyelia has increased up to 22% (5). Why some patients develop syringomyelia and whether it can be influenced by the initial management are still unanswered. The interval between spinal injury and syringomyelia is highly variable, ranging between 2 months to several years (6, 7). We describe a woman presented to our emergency department (ED) due to hemiplegia

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**Figure 1.** A syringomyelic cavity extending from T6 to T8

immediately after a fall and diagnosed with post-traumatic syringomyelia.

### Case Report

A 21-year-old female was admitted to our ED with the complaint of weakness and loss of sensation in the legs after falling down in the bathroom 4 hours previously. The patient's medical history was unremarkable. She expressed that these complaints developed after falling backwards on wet ground. Physical examination revealed a muscle power of 2/5 in both lower extremities. Bilateral Babinsky signs were dorsal. There was loss of sensation below the dermatome level of Th7. Complete blood count and biochemical parameters were in normal range. Plain radiographs and a CT scan were normal. The MRI performed in ED showed a syringomyelic cavity extending from T6 to T8 (Figure 1). The patient was hospitalised with the diagnosis of traumatic syringomyelia in the neurology department after consultation. Pulse steroid and anti-oedema therapy were initiated. The patient was discharged with oral prednisolone on the seventh day of admission with complete recovery. The patient's informed consent was obtained.

### Discussion

The present article describes the case of a patient with post-traumatic syringomyelia that appeared immediately after trauma without any vertebral fracture. Bleasel et al. (8) reported that patients presenting with post-traumatic syringomyelia after uncomplicated spinal fracture were very rare, and the significance of the past history of spinal trauma may be overlooked. Our patient had no previous history of trauma.

There are treatment dilemmas in post-traumatic syringomyelia. A review of the literature suggests that an aetiology-driven approach is essential in the diagnosis and management of syringomyelia, although conservative management is sufficient for most cases. Aghakhani et al. (9) suggested that surgery should be performed as soon as possible in patients with clearly progressing clinical features.

### Conclusion

In trauma patients with neurological deficits who are admitted to the ED, post-traumatic syringomyelia should be considered even if there is no vertebral fracture. The early diagnosis and early treatment of post-traumatic syringomyelia requires MRI examination of these patients in the ED.

### Conflict of Interest

No conflict of interest was declared by the authors.

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### Author Contributions

Concept - A.B., İ.S.S.; Design - A.B., S.K.; Supervision - A.A.; Funding - A.B.; Materials - Ü.K.; Data Collection and/or Processing - Ü.K. Analysis and/or Interpretation - A.B., A.A., Ö.B.; Literature Review - A.B., Ö.B.; Writer - A.B.; Critical Review - Ö.B.

### Çıkar Çatışması

Yazarlar herhangi bir çıkar çatışması bildirmemişlerdir.

**Hakem değerlendirmesi:** Dış bağımsız.

### Yazar Katkıları

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