Bilateral Traumatic Thalamic Hemorrhage: A Rare Clinical Presentation

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Abstract	Bilateral traumatic thalamic hemorrhage is a very rare occurrence, especially after head trauma, and is limited to case reports. The authors present a 27-year-old man,
Keywords	admitted for head trauma causing bilateral thalamic bleeding. Posttraumatic intrace-
► thalamic	rebral bleeding is caused by focal or diffuse axonal injury. Bilateral traumatic thalamic
► hemorrhage	hemorrhage is a rare clinical and radiologic presentation.
► bilateral	

► head trauma

Introduction

The thalamus is one of the areas site most affected by intracerebral hemorrhage.¹⁻³ Hypertension and diabetes mellitus, as well as antiaggregant and anticoagulant usage, are some of the risk factors for thalamic bleeding.⁴ However, bilateral thalamic hematoma after trauma is extremely rare. The authors present a case of symmetrical and bilateral thalamic hemorrhage with a literature review.

Case Report

A 27-year-old man was admitted to the hospital following a head trauma. Initial neurologic evaluation revealed a comatose patient with a score of Glasgow 3/15, bilateral mydriasis unresponsive, and absence of brainstem reflexes. His computed tomography (CT) of the brain (**-Figs. 1, 2**) showed a bilateral thalamic hemorrhage, intraventricular hemorrhage, and cerebral edema without hydrocephalus. The patient died 48 hours after admission.

Discussion

The prevalence of thalamic hemorrhage in different series of primary intracerebral hemorrhage vary widely from 6%

in the series of Juvela⁵ to 15.7% in the series of Tatu et al.⁶ However, the general incidence of traumatic basal ganglia hemorrhage is reported between 2.4 and 3% of closed head injury.⁷ The incidence is higher in postmortem studies (9.8%).⁷

Bilateral thalamic bleeding occurs mainly due to methanol intoxication, coagulopathies, vasculitis, and infection. Primary hypertensive thalamic hemorrhage is usually unilateral.⁸

Traumatic intracerebral hemorrhage occurs usually at the tip of frontal and temporal poles because of closeness to bony parts, but the thalamic seat is an uncommon clinical and radiologic presentation.⁹

The mechanism is unclear though it is proposed to arise from shear strain of the lenticulostriate or anterior choroidal vessels caused by acceleration/deceleration forces at the time of injury.⁹ Both coup and counter coup injuries can cause this and this may cause bilateral lesions.⁹

Thalamic hemorrhage can occur by different clinical profiles (sensorimotor disturbances, speech disorders, lacunar syndrome). Diagnosis is easy to install on a CT of the brain, and in this case, we found a bilateral thalamic hematoma producing a mirror image.

Thalamic hemorrhage is a severe clinical condition. The initial level of consciousness was always found to be a predictor of mortality in the different series.¹⁰

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Fig. 1 Axial section of a brain scan showing bilateral thalamic hematoma.

Conclusion

Thalamus may be the seat of posttraumatic bleeding with even a bilateral and symmetrical location.

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Fig. 2 Coronal section of a brain scan showing bilateral thalamic hematoma, producing a mirror image.

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