Dear Editor,

Basal ganglia (BG) hematoma following head injury in pediatric population is less discussed. Although initially included as a part of diffuse axonal injury, the distinctly different pathogenesis mandates it to be considered as a separate entity. Here, we describe three pediatric cases of isolated BG bleed managed conservatively with good outcome.

A 10-year-old male child presented with fall from tree in unconscious state. On presentation, he was in Glasgow coma scale (GCS) of E1VTM3. The computed tomography (CT) scan showed isolated right-spired BG bleed [Figure 1a]. He was managed conservatively with decongestants and improved gradually. At 6-month follow-up, CT showed complete resolution of hematoma and he improved completely without any focal motor power deficit [Figure 1b and C].

Another 4-year-old female child with isolated left BG bleed with GCS E1VTM4 and a 13-year-old male child with isolate right BG bleed in GCS E2VTM5 were managed conservatively [Figure 2a and b]. Both the patients had history of fall from stairs. Although these two patients improved with time, the female child remained aphasic with right-sided hemiparesis of Grade 3/5 at 6-month follow-up.

Isolated BG hematoma following closed head injury is unusual with incidence of <3%.\(^1\) Sudden acceleration or deceleration forces that causes shearing of the lenticulostriate or the anterior choroidal artery will result in BG bleed.\(^2\) Although rare bilateral BG hematoma following trauma has been reported,\(^3\) the eloquent nature of this region is responsible for the severity of symptoms even with a small size hematoma. Moreover, the extent of involvement of the pyramidal or extrapyramidal pathway will determine the residual deficit.

Most of the cases described in literature were managed conservatively. Only those cases with a large hematoma producing mass effect need surgical evacuation. Ultrasound or CT-guided stereotactic aspiration of hematoma is an alternative to open surgery. In our cases, the hematoma sizes were small (<25 ml) and there was no mass effect so managed conservatively.

The mechanism of injury, size of hematoma and associated injuries, and age of patients are the most important prognostic factors.\(^4\) All our three patients had history of fall from height. May be this low-velocity injury caused only rupture of lenticulostriate or the anterior choroidal artery and resulted in isolated BG bleed. However, cases of road traffic accidents with high-velocity injuries may have additional subarachnoid hemorrhage, diffuse axonal injuries, subdural hematoma, or intraventricular hemorrhage that will prolong the hospital stay and affect the overall outcome. Therefore, isolated BG bleed in a setting of closed head injury always has comparatively better outcome than associated multiple head injuries.

**Declaration of patient consent**

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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**Conflicts of interest**

There are no conflicts of interest.

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Dear Editor,

A 46-year-old male patient experienced monoplegia of the right upper arm immediately after his temporal head struck the bottom of the sea while he was being buffeted by waves. A physician-staffed emergency helicopter evacuated the patient from the scene and transported him to our department. His medical and family history were unremarkable. On arrival, he had clear consciousness and his vital signs were stable. The physiological findings included right neck pain, anesthesia of the right shoulder, dysesthesia of the right index and middle fingers, and a manual muscle testing grade of 0 at the right deltoids, biceps, and triceps muscles.

Cervical computed tomography (CT) demonstrated a minute amount of gas in the sleeve of the right sixth nerve root [Figure 1].

A magnetic resonance image demonstrated that there were no traumatic lesions of the spinal cord and suggested right fifth and sixth nerve root avulsion [Figure 2]. His neurological signs showed no changes until the 5th day of hospitalization when he was discharged from the hospital. As he was tourist, he was followed at his local hospital.

This is the first reported case, in which the vascular permeability (VP) was observed in the sleeve of a nerve root. CT is considered to be the imaging modality that most frequently detects the VP in trauma settings because the high spatial resolution allows for the detection of small amounts of gas, and with the improvements of spatial resolution that come year by year, it might be possible to detect minute amounts of gas in the sleeve.

The patient's main symptom originated from the cervical fifth and sixth nerve roots; however, CT did not detect the VP in the fifth sleeve. This might A Case of Traumatic Vacuum Phenomenon in the Sleeve of a Nerve Root Due to Nerve Root Avulsion

Figure 1: The cervical computed tomography scan on arrival. The computed tomography scan shows a minute amount of gas in the sleeve of the right sixth nerve root

Figure 2: The cervical nerve root on the short tau inversion recovery of magnetic resonance image. The magnetic resonance imaging suggest discontinuity of the right fifth and sixth nerve root (arrow) and partial bony contusion on the 5th and 6th vertebra (triangle)