

## EDİTÖRE MEKTUP / LETTER TO THE EDITOR

### Acute-on-chronic subdural hematoma

Kronik üzerine akut subdural hematom

Polat Durukan<sup>1</sup>, Şule Yakar<sup>1</sup>, Necmi Baykan<sup>2</sup>, Ömer Salt<sup>1</sup>, Bahadır Taşlıdere<sup>1</sup>, Berna Özcan<sup>3</sup>

<sup>1</sup>Erciyes University Faculty of Medicine,, Department of Emergency Medicine, Kayseri, Turkey

<sup>2</sup>Nevşehir State Hospital, Department of Emergency Medicine, Niğde, Turkey

<sup>3</sup>Kastamonu State Hospital, Department of Emergency Medicine, Kastamonu, Turkey

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Dear Editor,

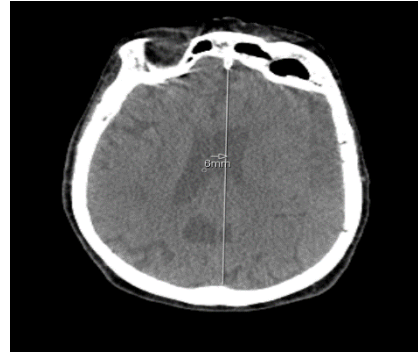
Subdural hematoma (SDH) is a collection of blood accumulating in the potential space between the dura mater and arachnoid<sup>1</sup>. Generally, subdural hematomas are classified as acute, sub-acute, or chronic depending on the length of time from onset and occurrence of active hemorrhage. Acute SDH occurs within 48-72 hours of the injury; after three weeks, the term chronic SDH is used<sup>2</sup>. In this study, we aimed to present radiologic and clinical characteristics of a patient who was detected to have acute-on-chronic subdural hematoma.



**Figure 1. Acute bleed is hyperdense and chronic is hypodense.**

A 90-year-old female patient was admitted to emergency department with complains of falling on her head four days ago. There was no history of incontinence, seizure or vomiting. The patient's past medical history included hypertension and depression, but she did not use any anticoagulant drugs. Family of the patient was reported that a

history of repeated falls.



**Figure 2. CT head showing a midline shift to the right.**

On arrival; she was alert, her consciousness level was E4V5M6 on the Glasgow Coma Scale (GCS). Cranial nerves were intact with no focal neurological deficits, and pupils were isochoric with normal light reflexes on both sides. Her blood pressure was 180/100 mmHg, cardiac pulse 117 beat/min, respiration rate 24 breaths/min and oxygen saturation 96%. ECG of the patient was in normal sinus rhythm and revealed no ischemic sign. Physical examination found no abnormality except tenderness in the right hemithorax. Levels of serum electrolytes, glucose, blood urea and creatinine were normal, where as her hemoglobin level was 11.8 g/dL.

After stabilization, radiography and complete body computed tomography (CT) were performed. Head CT without contrast revealed an acute-on-chronic

Yazışma Adresi/Address for Correspondence: Dr. Necmi Baykan, Nevşehir State Hospital, Department of Emergency Medicine, Niğde, Turkey. E-mail: drnecmibaykan@gmail.com

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SDH with 6-mm midline shift (Figs 1, 2). In other tomographic examinations old ischium and rib fractures were seen. After neurosurgery consultation; the patient refused surgery and was discharged at her own request.

SDH occurs mostly due to rupture of the bridging veins caused by head trauma<sup>2</sup>. This results in hematoma formation between the dura and arachnoid membranes. Due to the extensive brain atrophy in the elderly, even seemingly benign falls from standing can result in subdural hematomas<sup>3</sup>. Also in our case; SDH was revealed after mild head trauma. Additionally; subdural hematomas can occur by coagulopathies, medical anticoagulation, ruptured intracranial aneurysms and intracranial tumors<sup>2</sup>. In this case, there was no history of the intracranial tumor, aneurysms or use of anticoagulant drugs. However, in our patient had risk factors such as age, hypertension and repeated head trauma. SDHs are usually diagnosed by CT and classified as acute, sub-acute, or chronic. On CT scan; acute SDH are hyperdense, sub-acute SDHs are isodense and chronic SDHs appear hypodense<sup>1</sup>. Common presentations of a chronic SDH include; altered mental state, focal neurological deficit, headache, falls, seizures and transient neurological deficits<sup>3</sup>. Particularly; patients with asymptomatic chronic SDH are more susceptible to fall<sup>4</sup>. So acute trauma

on these patients may develop acute bleeding over the chronic SDH, as in the our case. Treatment of SDH is by surgical evacuation, although chronic subdural hematomas can sometimes be managed without surgery depending on the severity of the symptoms<sup>4</sup>. After clinical and radiologic findings in our patient, surgery was recommended by neurosurgery.

In conclusion acute-on-chronic SDH is not rare and repeated trauma may cause acute bleeding over the chronic SDH. Emergency physicians should note that; any mild head trauma especially in elder patients should be evaluated carefully.

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