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Case Report

Rare acute idiopathic subdural hematoma: A case report and literature review

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ABSTRACT

Background: Acute spontaneous subdural hematoma is rare. For patients under 40 years of age, we found only five previous reports. Here, we have presented a sixth case study.

Case Description: A 27-year-old male initially presented with a high-intensity headache without any neurological deficits. The brain computed tomography revealed a left frontoparietal lesion, consistent with an acute epidural hematoma. However, the bone window examination showed no fracture, and at surgery, this lesion proved to be an acute subdural hematoma. Additional studies, including cerebral angiography, brain magnetic resonance imaging, and a complete coagulation work-up, were all negative.

Conclusion: This case report and literature review focused on the rarity of acute idiopathic/spontaneous subdural hematomas.

Keywords: Intracranial hematoma, Neurosurgery, Subdural hematoma, Traumatic brain injury

INTRODUCTION

There are few documented cases of acute spontaneous subdural hematomas (ASSDH) occurring in healthy young men without a history of trauma [Table 1].[4] Here, we present a 27-year-old male with an ASSDH and reviewed five other cases of idiopathic ASSDH in the patient under 40 years of age.

CASE REPORT

A 27-year-old male presented with a high-intensity headache of 3 h duration. He exhibited no focal neurological deficit or any laboratory/coagulation abnormalities [Table 2]. The brain computed tomography (CT) scan documented a left frontoparietal lesion (e.g., 16 mm side), consistent with an acute epidural hematoma. However, the bone window CT showed no underlying fracture, and at surgery (e.g., a routine craniotomy), the lesion proved to be an acute subdural hematoma [Figure 1]. The postoperative CT confirmed adequate removal of the clot [Figure 2]. Subsequently, the patient's additional studies including cerebral angiography, brain magnetic resonance (MR), and an additional full coagulation work-up all proved negative [Figures 2-5].

Figure 1: The preoperative computed tomography (CT) scan showed the left parietal subdural hematoma. Due to its lenticular configuration, this could easily be misinterpreted as an epidural hematoma.

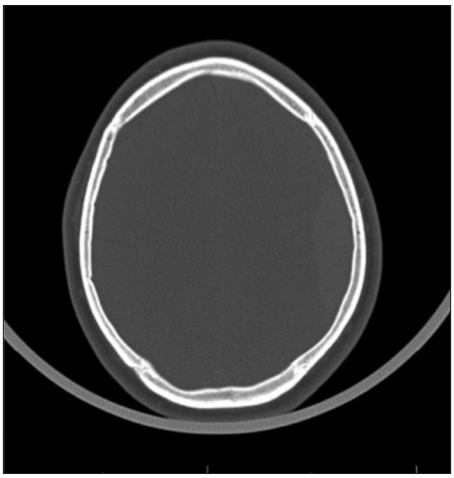

Figure 2: Notably, the bone window CT demonstrated no accompanying skull fracture.

Figure 3: The postoperative computed tomography scan showed complete resection of the hematoma.

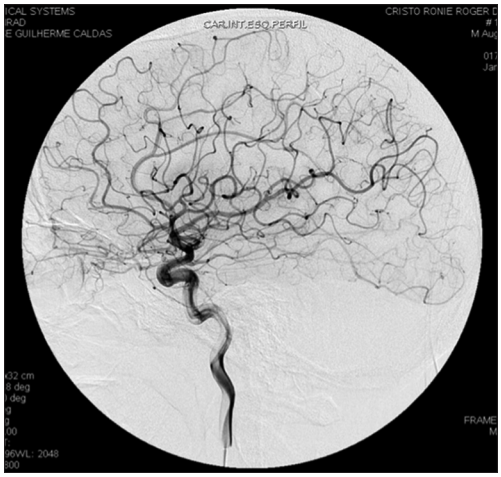

Figure 4: Left cerebral angiography was normal.

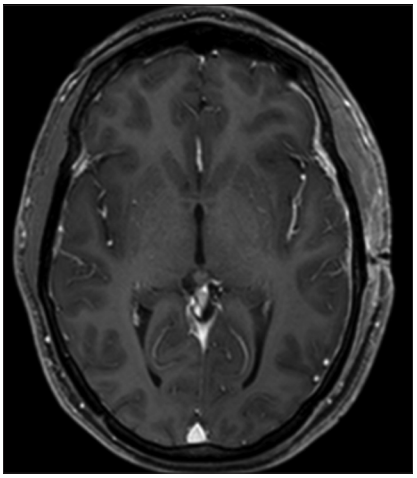

Figure 5: Postoperative T1-weighted enhanced brain magnetic resonance (MR) imaging. The postoperative brain MR performed with gadolinium diethylenetriaminepentaacetic acid was negative.

DISCUSSION

History of ASSDH

Munro, in 1934, was the first to report an ASSDH; a decade later, Scott reported two more cases.[9] In 1971, Talalla and McKissock coined the phrase "acute spontaneous SDH (ASSDH)."[10,11] The previous reports indicated that ASSDH typically occurred in male teenagers and correlated with good outcomes when diagnosed and treated early in the clinical course (e.g., before the onset of a severe neurological deficit).[2,5,8,13]

Risk factors for ASSDH

Risk factors for ASSDH included hypertension, vascular malformations, neoplasia (e.g., hematological malignancies causing thrombocytopenia), other solid tumors, dural metastases, hypervitaminosis, coagulopathy/alcoholism, and

Table 1: Spontaneous subdural hematoma in patients under 40 years old reported in literature.

Reference author/year	Age M/F	CT/MR	Surgery	Outcome
Kulali, 1992	15 M	Right temporoparietal subdural hematoma with midline shift	No surgical treatment	Normal neurological examination
Man Ho, 1994	39 F	Left frontoparietal subdural hematoma with midline shift	Craniotomy and hematoma evacuation	Hemiparesis
Arnold *et al*., 2011[1]	15 M	Left frontoparietal subdural hematoma with midline shift	Craniotomy and hematoma evacuation	Normal neurological examination
Arnold *et al*., 2011[1]	16 M	Right frontoparietal subdural hematoma with midline shift	Craniotomy and hematoma evacuation	Normal neurological examination
Brennan and Fuller, 2011[3]	37 M	Right frontoparietal subdural hematoma 28 mm in depth, with 13 mm of midline shift	Craniotomy and hematoma evacuation	Normal neurological examination
de Oliveira, 2019*	27 M	16 mm thick acute left frontoparietal extradural hematoma	Craniotomy, intraoperative find of subdural hematoma and evacuation	Normal neurological examination

*Our case; M: Male, F: Female, CT: Computed tomography, MR: Magnetic resonance

Table 2: Laboratorial investigation.

Exam	Value	Normal range
Hemoglobin	17.9 g/dl	13–18 g/dl
Partial thromboplastin time	25.4 s	20.8–31.2 s
Prothrombin time	11.6 s	Control 11.6 s
INR	1.0	0.95–1.2
R	0.98	0.80–1.2
Platelet counts	201.000/mm^3	140.000–450.000/mm^3
Antithrombin	109%	79–131%
Factor VIII	177%	50–150%
Factor IX	124%	60–150%

bleeding from cerebral artery aneurysms/cortical arteries. In the case presented, the patient had none of these risk factors. Notable, however, was the CT finding of a lenticular clot pathognomonic for an epidural hematoma (e.g., only 8% of subdural hematomas demonstrate this radiological shape), but without a fracture on the bone window CT.[12] At surgery, this proved to be an ASSDH.

CONCLUSION

Spontaneous intracranial hematomas are rare life-threatening lesions that typically present with mild symptoms and less severe neurological findings versus traumatic acute subdural hematomas. In addition to obtaining preoperative noncontrast CT bone and soft-tissue studies, patients postoperatively should undergo brain MR scans, cerebral angiography, and a full coagulation work-up to rule out other etiologies of these rare lesions.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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