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Research Article

CHRONIC SUBDURAL HEMATOMA WITH UNEXPLAINED WHITE COLORED SEDIMENT: A CASE REPORT

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Abstract:

Introduction. Chronic subdural hematoma is characterized by the abnormal collection of blood products in the subdural space with a relatively indolent course of disease progression. Patients with this condition can develop signs of infection as a consequence of hematoma infection. **Case presentation.** An 83 years old male patient, Came to the hospital complaining of 2-week right-sided hemiparesis. The patient was conscious with GCS of 15. Power of right upper and lower extremities was one out of five. No signs of infection were noticed. An enhanced brain CT scan showed left hypodense crescentic fluid collection. Diagnosis of chronic subdural hematoma was made. **Management and Outcome.** Primarily, Hematoma was aspirated using a burr-hole under local anesthesia. Upon aspiration, the hematoma cavity was filled with a white-colored fluid which raised the suspicion of subdural abscess. The evacuated fluid was cultured and turned negative. Subsequently, a 2nd operation with craniotomy was done and the evacuated fluid turned negative as well. Thus, diagnosis of a subdural abscess was excluded with the negative culture results. Postoperatively, the patient was free of hemiparesis and discharged after reporting a generalized well-being. **Discussion** Infected subdural hematoma is a rare condition. After the literature reviews, almost only 28 cases have been reported in the same condition with variable clinical presentations and causative agents. In our patient, this finding was not expected as the patient did not show any systemic signs of infection. Interestingly, with the aforementioned findings, observation was considered unique.

Key words: Chronic subdural hematoma, infected subdural hematoma, burr-hole evacuation, craniotomy, subdural abscess, computed tomography

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INTRODUCTION:

Chronic subdural hematoma is considered one of the most common neurosurgical diseases. CSDH usually affects the elderly [1]. It is associated most commonly with history of head trauma which is trivial. The most common patient complaint is headache which is present in 80% of patients [2]. Other symptoms include lethargy, confusion, memory impairment, nausea, vomiting and seizures. However, patients that have large-sized hematomas may develop variable degrees of paralysis and coma [3]. Diagnosis is made by computed tomography (CT) and magnetic resonance imaging (MRI) brain scans. Some cases could be secondary to coagulopathy e.g. after lumbar puncture. Various surgical procedures have been reported for CSDH treatment. Burr-hole evacuation is the modality of choice in the treatment of uncomplicated CSDH. The accumulated blood is washed out through the holes. Craniotomy also play a role in the management [4].

Case report:

An 83 years old male patient, Came to the hospital complaining of 2-week right-sided hemiparesis. Upon elaboration on history, the patient has never sustained

a head trauma. On physical examination, the patient was alert, oriented and conscious with GCS of 15. No signs of infection were noticed. Full neurological examination was done and the power of both upper and lower extremities of the right side was one out of five (1/5). An enhanced brain computed tomography scan showed left hypodense crescentic fluid collection. The midline structures of the brain were shifted to the right side (figure 1a, 1b). The hypodense area is relatively large in diameter (figure 1c). He was diagnosed with a chronic subdural hematoma and underwent hematoma aspiration through a burr hole under local anesthesia. Surprisingly, the hematoma cavity was filled with unusual white-colored fluid which raised the suspicion of subdural abscess. The white-colored sediment was subjected to a culture test and turned to show no germs. Subsequently, second operation with craniotomy was done and again no germs were detected in culture examination. Thus, diagnosis of subdural abscess were excluded with the negative culture results. Postoperatively, the patient was free of hemiparesis and was discharged after reporting a generalized well-being.

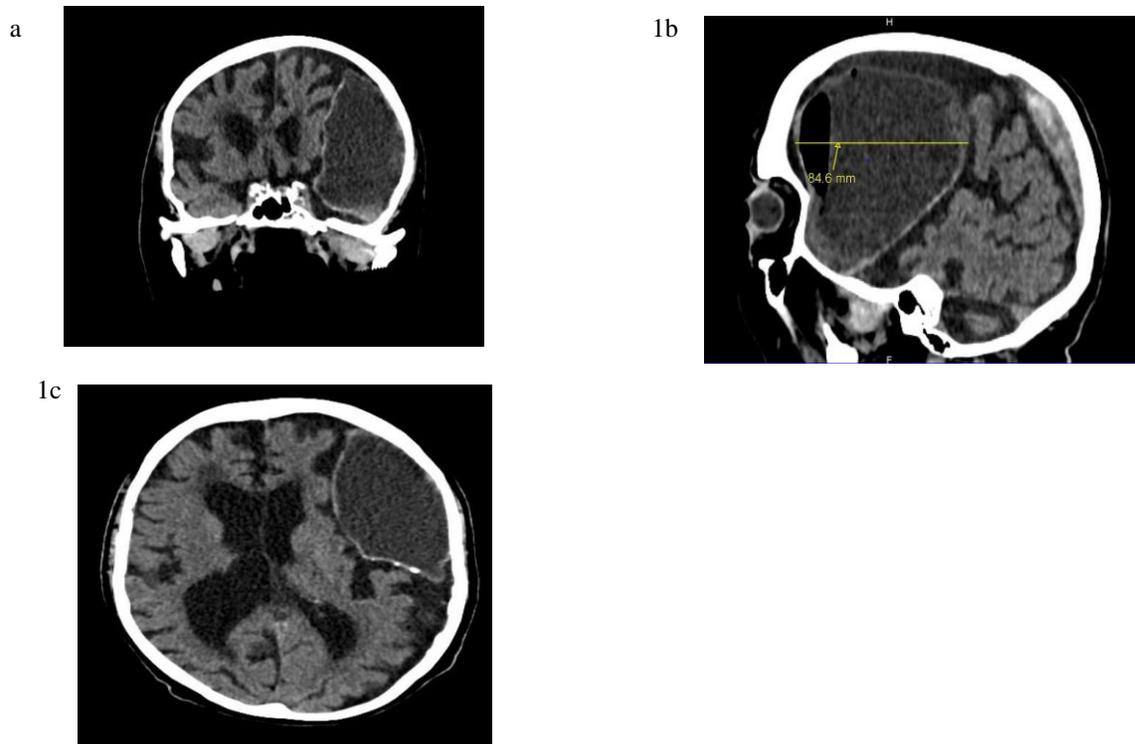


Figure 1. CT showing hypodense subdural hematoma, (a) coronal CT section showing the left side hematoma, (b) axial view showing the crescentic hypodense area on left side of brain, (c) sagittal view illustrating the size in mm.

DISCUSSION:

Infected subdural hematoma is a rare condition. Over the literature review, almost only 28 cases have been reported for the same condition with variable clinical presentations and causative agents (table1) [5]. In our patient, this diagnosis was not expected as the patient did not show any signs of infection such as fever and the elevation of white blood cells or CRP. After observing the white-colored sediment, a suspicion of infected subdural hematoma was raised. Interestingly, all culture results after both burr-hole evacuation and craniotomy were negative and observation is considered unique.

CONCLUSION:

For the rarity, we present our case with this unexplained finding as most probably the fluid characteristic matches with infections regardless the causative organisms. Our patient showed improvement in his symptoms with excellent prognosis.

Disclosure statement:

The authors have no conflicts of interest or any financial disclosures to make.

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Table 1. Summary of clinical features in previously reported cases with white-colored sediment as a feature of fluid obtained

Case no.	Year	Age, years	Sex	Symptoms	Surgical treatment	organism	prognosis
1	1972	53	M	fever, aphasia, anisocoria, hemiparesis	bilateral craniotomy	β -hemolytic Streptococcus	excellent
2	1980	77	F	headache, fever, hemiparesis, disturbance of cons., convulsion	unknown	E. coli	unknown
3	1981	70	M	convulsion, headache, hemiparesis	bilateral burr hole	E. coli	good
4	1983	55	M	fever, disturbance of cons., anisocoria	craniotomy	Salmonella sandiego	good
5	1984	76	F	headache, fever, disturbance of cons., hemiparesis	right craniotomy + left burr hole	E. coli	excellent
6	1989	45	M	fever, disturbance of	craniotomy	Streptococcus anginosus	good

				cons			
7	1993	88	F	disturbance of cons., monoparesis	burr hole	E. coli	dead
8	1995	4	M	fever, meningitis	burr hole	Streptococcus pneumoniae	Excellent
9		81	F	headache, fever, meningitis, hemiparesis, disturbance of cons.	craniotomy	S. aureus	good
10	1995	86	M	fever, disturbance of cons., hemiparesis	burr hole	E. coli	dead
11	1997	70	M	fever, disturbance of cons., convulsion, hemiparesis	craniotomy	Campylobacter fetus	Excellent
12	1997	58	M	fever, convulsion	bilateral burr hole	Enterococcus faecalis	excellent
13	1998	77	F	fever, hemiparesis	burr hole ×2	E. coli	excellent
14	1998	64	M	fever, disturbance of cons., anisocoria	craniotomy	Salmonella enteritidis	Good
15	1998	63	M	fever, disturbance of cons., convulsion, hemiparesis	burr hole	S. aureus	dead
16	2001	20	M	fever, nausea, headache	burr hole	C. fetus	Excellent
17	2002	71	F	disturbance of cons., hemiparesis	burr hole ×2, craniotomy	Klebsiella pneumoniae	excellent
18	2005	50	M	fever, disturbance of cons., bilateral mydriasi	craniotomy	MSSA	excellent
19	2007	87	M	disturbance of cons., convulsion	burr hole	unknown	dead
20	2008	1	M	fever, convulsion	burr hole ×2	S. pneumoniae	Excellent
21	2009	80	M	fever, headache, disturbance of cons.	burr hole	E. coli	Dead

22	2009	75	F	fever, disturbance of cons., convulsion, hemiparesis, aphasia	burr hole ×2, craniotomy	E. coli	Good
23	2010	65	M	fever, headache, monoparesis	burr hole	Salmonella enterica serovar Typhimurium	Good
24	2010	6 m	M	fever, convulsion	burr hole	E. coli	excellent
25	2011	68	F	headache	burr hole	S. pneumoniae	Dead
26	2012	86	M	fever, diarrhea, disturbance of cons.	burr hole ×2	C. fetus	good
27	2013	76	M	fever, headache, disturbance of cons., hemiparesis	burr hole, craniotomy	MRSA	Excellent
28	2014	63	M	dizziness	burr hole ×3, embolization of MMA, craniotomy ×2	P. acnes	Excellent
29	Present case 2018	83	M	Right-sided hemiparesis	Burr hole, craniotomy	Negative	Excellent
cons. = Consciousness; MSSA = methicillin-sensitive Staphylococcus aureus; m = months;							