

양측성 만성 경막하출혈의 자발적 흡수: 증례보고

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- Abstract -

Bilateral Spontaneous Resolution of Chronic Subdural Hematoma: A Case Report

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Although spontaneous resolution of chronic subdural hematoma (C-SDH) in the elderly has rarely been reported, spontaneous resolution of bilateral C-SDH is very rare. Here, we report the case of a 73-year-old female patient with no significant head trauma history who had a bilateral C-SDH spontaneously resolve despite receiving only conservative treatment. However, because of a lack of detailed knowledge about the mechanisms of resolution, treatment is often limited to surgical interventions that are generally successful, but invasive and prone to recurrence. We review the literature and discuss the possible relation of C-SDH's spontaneous resolution with its clinical and radiological characteristics. [J Trauma Inj 2015; 28: 43-46]

Key Words: Chronic subdural hematoma, Elderly, Spontaneous resolution

I. Introduction

Chronic subdural hematoma (C-SDH) is a relatively common condition in old age and is thought to develop when head injury causes trauma to vessels between the arachnoid and dura mater.(1,2) There have been many surgical and nonsurgical techniques to treat C-SDH. Burr-hole trephination and

hematoma removal being the widely used effective surgical treatments.(2,3) However, rarely case reports have demonstrated the spontaneous resolution of C-SDH by conservative treatment. Here, we report a spontaneously resolving C-SDH and review the previously reported cases, and their clinical characteristics.

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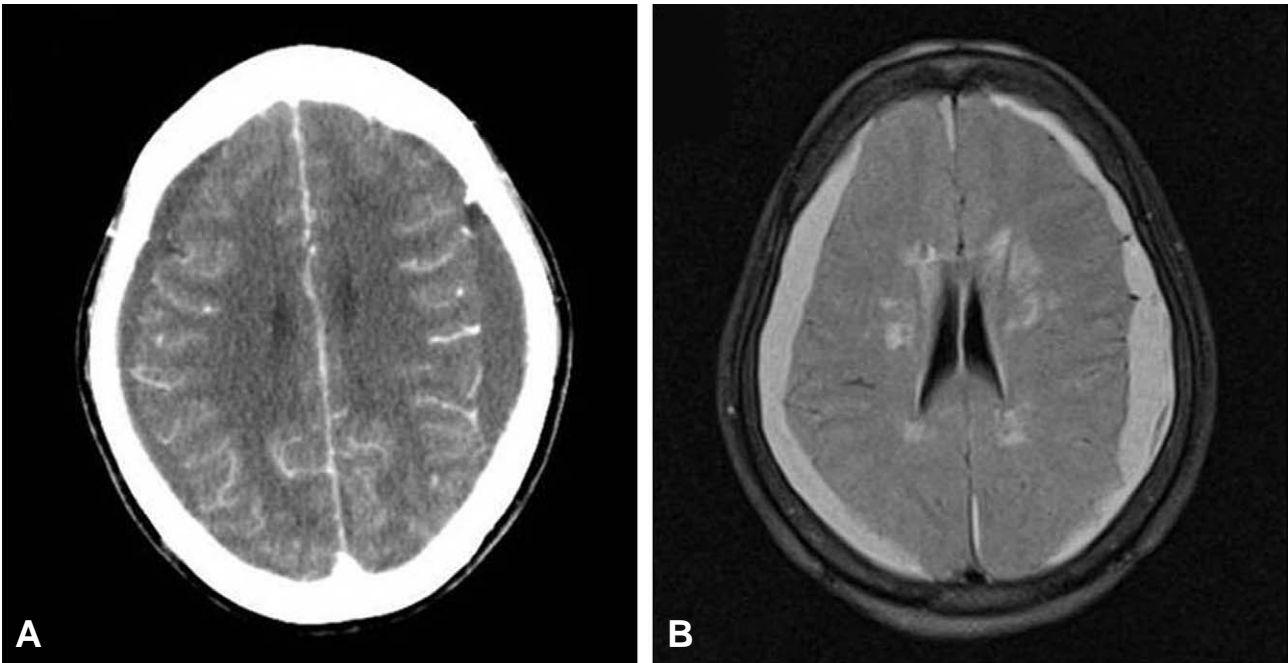


Fig. 1. Brain computed tomography (A) and magnetic resonance imaging (B) show chronic subdural hematoma along both cerebral convexities without a significant mass effect.

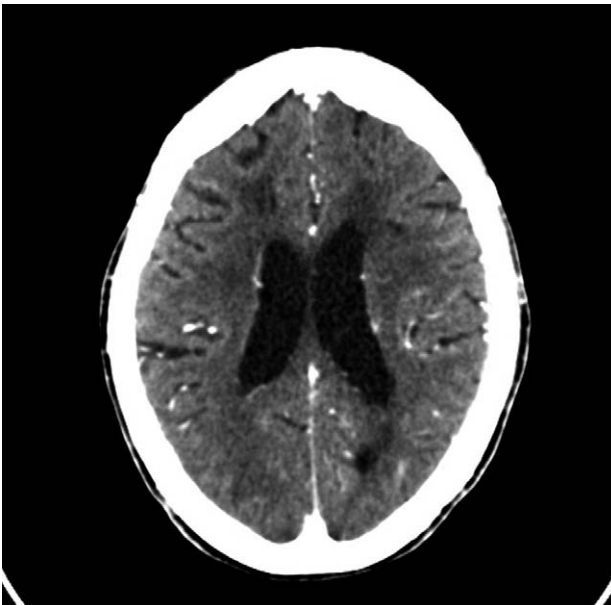


Fig. 2. Follow-up computed tomography image obtained after 2 month showing complete disappearance of the hematoma.

II. Case Report

Four months before her visit to our hospital, a 73-year-old female was admitted to a local clinic for headache and dizziness. Her medical history was significant for diabetes and hypertension, for which

the patient had been taking oral medications for several years. In addition, she was suffering from an unstable angina, and was taking anticoagulants. She had no memory of her head injury. Neurological examination revealed only a decrease of cerebral cognitive functions (Mini-mental state examination-K: 23). Her Glasgow coma scale was 15. Brain computed tomography (CT) scans revealed an isodense C-SDH along both cerebral convexities, without a significant mass effect (Fig. 1A). Magnetic resonance imaging (MRI) revealed C-SDH of the bilateral frontotemporoparietal areas, with mild brain atrophy (Fig. 1B). She was treated conservatively because she had a stable neurologic status. Her headache and dizziness diminished steadily without any significant medication use. Follow-up CT scans obtained after 2 month showed that the hematoma had disappeared completely (Fig. 2). One year after her initial symptoms developed, the patient is doing well, and no complications in relation to the C-SDH have been observed.

III. Discussion

C-SDH is a relatively common neurosurgical disorder that has a high incidence in the geriatric pop-

ulation. Pathologically, C-SDH is defined as a persistent liquefied old hematoma in the subdural space lasting more than three weeks and encased by a membranous capsule.(3) Generally, surgical methods like burr-hole trephination with closed-system drainage, craniotomy, subdural-peritoneal shunt, or twist-drill drainage are considered. Burr-hole trephination is most used as a first-line treatment because of the simplicity and effectiveness of the procedure.(4-6) However, the reoperation rate after burr-hole trephination is estimated at 5~24%.(7) The natural history and mechanisms of spontaneous hematoma resolution are still controversial. Various theories have been suggested to explain the mechanisms of the formation and resolution of C-SDH. Kawano and Suzuki reported that the modified smooth-muscle cells in the outer membrane might play a role in the resolution of C-SDH, since the cells produce collagen that reinforces the membrane and reduces its fragility.(8) Yamashima et al.(9) described the structure of macrocapillaries, also called 'sinusoids', in the outer membrane of subdural hematomas. They suggested that the endothelial gap junctions of macrocapillaries in the outer membrane play an important role in the leakage of blood, causing hematoma enlargement by microhemorrhages and increased fibrinolytic activity. The endothelial gap junctions are sometimes bridged by platelets, reducing microhemorrhages and the size of the hematoma. Nakamura et al.(10) reported that ventricular dilatation elevates counter pressure against the subdural hematoma, which may be important in its spontaneous resolution. Lee postulated that maturation of the neomembrane and stabilization of the neovasculature might result in the spontaneous resolution of hematoma.(11)

Some C-SDHs can be spontaneously resolved by medication. Ambrosetto reported that hematomas disappeared by treatment with adrenocortical hormone and 50% glucose, without surgery.(12) Giuffr  suggested that hormonal factors play an important role in the pathogenesis of subdural hematomas.(13) Glover and Labadie proposed that corticosteroids inhibited the formation of protein-permeable membranes, decreasing the size of C-SDH.(14) There are few reports of specific underlying disorders in the

literature of total spontaneous resolution of C-SDH. Hakan Sec et al.(15) reported the spontaneous disappearance of C-SDH in idiopathic thrombocytopenic purpura despite very low platelet levels. Takami et al.(16) reported the spontaneous rapid resolution of a large C-SDH in the posterior fossa of a patient with aplastic anemia who was receiving therapeutic platelet and red blood cell infusions periodically. Jukovi  et al.(17) reported a patient with liver failure, who received conservative treatment and showed complete resolution of their C-SDH. Parlato et al.(18) insisted indications for conservative treatment include being over 70 years of age, worsening mental function, presence of brain atrophy, and absence of clinical and radiological symptoms of increased intracranial pressure are clinical and radiological signs that allow one to choose conservative treatment.

In the present case, the patient had unstable angina and was administered anticoagulants, but had clinically mild symptoms and brain atrophy. However, no significant mass effect on brain CT correlated with the resolution of her hematoma. Spontaneous resolution of bilateral C-SDH within 2 month is a very rare event. We think that the clinical and radiological characteristics of the hematoma may be associated with its spontaneous resolution. However, further investigation is required.

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