Spontaneous Resolution of Chronic Subdural Haematoma in a Patient Receiving Anticoagulant Therapy

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Abstract
Significant chronic subdural hematoma (CSDH) is usually a surgical emergency. Spontaneous resolution of CSDH has rarely been reported in the literature. We are reporting a case of spontaneous resolution of CSDH in a patient receiving anticoagulant therapy who had undergone mitral valve replacement surgery.

Introduction
Chronic subdural hematoma (CSDH) is a common type of intracranial hemorrhage and is predominantly seen in the elderly. The most common cause of this lesion is head injury, but several predisposing factors such as coagulopathy, alcoholism, cerebrospinal fluid shunt procedures, vascular malformations, seizure disorders, and metastatic tumors must be ruled out. Response to surgery has been very satisfactory and is generally considered the treatment of choice.¹ Spontaneous resolution of CSDH has rarely been reported in the literature, and its mechanism has not been fully investigated. We are reporting an extremely rare case of spontaneous resolution of CSDH in a patient receiving anticoagulant therapy, presented with symptoms of raised intracranial pressure and midline shift on imaging.

Case Report
A 40-year-old woman presented with 2 months history of holocranial headache, which had increased in severity over the past few days, with vomiting. She was a known case of rheumatic heart disease with mitral valve stenosis and underwent mitral valve replacement 1 year back. She was on acenocoumarin as anticoagulant. On examination, she was conscious, oriented with no neurological deficit. Fundus examination showed papilledema. CT head revealed a large left fronto-parietal CSDH with brain oedema, mass effect and midline shift (Figure 1). Her international normalized ratio (INR) was of 10. Anticoagulant drug (acenocoumarin) was stopped and vitamin K was supplemented. As patient was neurologically stable, she was kept under close observation on decongestants and steroids (Dexamethasone 4 mg four times a day) and surgery was postponed until normalization of coagulation profile which was 10 days. Patient improved symptomatically in terms of headache and her vomiting subsided completely. Repeat CT head was planned before surgery which revealed almost complete resolution of CSDH and brain oedema with total correction of midline shift (Figure 2). Patient was discharged and at 2 months follow up patient is doing well.

Discussion
Chronic subdural hematoma (CSDH) is one of the most common neurosurgical conditions. The trauma and antithrombotic therapy are the most frequent risk factors.² The incidence of CSDHs in patients on warfarin is reported as between 21% and 36%. Majority of spontaneous CSDHs (75%) patients are found to be on anticoagulants.³,⁴ Berwaerts et al found hypertension, an INR on admission of more than 4.5, and the duration of anticoagulation, as significant risk factors for intracranial hemorrhages in patients receiving oral anticoagulant therapy.⁵ CT with contrast and magnetic resonance imaging are diagnostic of CSDH. Bilateral isodense CSDH may cause considerable difficulty in diagnosis by CT scan. MRI could help in making the diagnosis of such lesion.⁶

Surgery is generally considered the treatment of choice for CSDH, but conservative management of CSDH in some patients on anticoagulant therapy have been reported in the literature.⁷,⁸ Literature concerning spontaneous resolution of CSDH (due to any cause) with medical treatment consists of small case series and very few clinical observations.⁹ Reports focusing on spontaneous resolution of CSDH in patients receiving anticoagulant therapy is very sparse.⁷,⁸ Total 15 reports including 286 patients are published on non-surgical treatment of all types of CSDH till now.⁹

Various theories have been suggested to explain the mechanisms of formation and resolution of CSDHs. Corticosteroids inhibited the formation of protein-permeable membrane, decreasing the size of CSDH.¹⁰ Maturation of the neomembrane and stabilization of the neovasculature might eventually result in spontaneous resolution.¹¹ In our case steroids may have played role in resolution. CSDHs with idiopathic thrombocytopenic purpura may resolve spontaneously or with medical treatment. Surgery might be deferred except in emergency conditions or in patients with neurological deficit. Close neurological and radiological observation along with the medical treatment could be appropriate in patients with normal neurological findings.¹² Early surgery without correction of coagulopathy is a risk factor in the recurrence.¹³ Nontraumatic SDHs or hygromas in infants can often experience significant resolutions within several months without surgical treatment.¹⁶ Spontaneous resolution of post-traumatic CSDH in patients without

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any associated coagulopathy, though rare, can occur. Careful conservative treatment can be considered if the patient’s neurological and physical conditions allow.15

Surgery can be delayed in such patients to correct the deranged coagulation profile if neurological condition of patient permits under close neurological and radiological observation. The need of repeat CT head prior to planned surgery is stressed once coagulation profile normalises. Finally further investigations are needed to understand mechanisms of resolution of CSDH.

References


