Chronic Encapsulated Intracerebral Haematoma: A Case Report

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Abstract : Encapsulated intracerebral haematoma (EICH) is an interesting and rare entity. In this paper; a chronic encapsulated intracerebral haematoma without vascular malformation is reported. Although the clinical course and radiological appearances suggested a brain tumour histopathological examination demonstrated a capsule and capillary proliferation at the periphery of the haemorrhage area. The literature for one case is reviewed.

Key words : Chronic encapsulated haematoma, computed tomography, magnetic resonance imaging.

INTRODUCTION

In general, intracerebral haemorrhage presents a sudden onset, progressive neurological deficit and classical histopathological features. Encapsulated intracerebral haematomas (EICH) are very different; these lesions are mainly characterized by a gradual clinical onset and histologically by a thick fibrous capsule with rich neovascularity (13). Up to 1993 28 cases have been reported in the English language literature (1-15).

CASE REPORT

This 33 years old woman was referred on 22 June 1992, complaining of increasing headache for the past 3 months and generalized convulsions for the past ten years. The headache was described as non-specific in character and localized in the left fronto-parietal region.

Clinical examination and chest and skull x-rays were normal. A CT scan showed a mass of heterogeneous density in the left frontal region. There was minimal rim enhancement after contrast adminisration and no mass effect or oedema (Fig. 1a,b). All laboratory data including blood coagulation studies were within normal limits.

Glial tumour was considered on preoperative diagnosis and a left fronto-temporal craniotomy was carried out on 7 September 1992. At operation a thick, brownish capsule encountered 3 cm below the cortex was incised and a small amount of dark brownish fluid and clots were aspirated. There was no abnormal vessel inside or outside the capsule. The capsule and mass were removed totally (Fig. 2).

On histopathological examination the membrane consisted of a thick capsule comprised of fibrosis with collagenization and there was capillary proliferation at the periphery of the haemorrhage area (Fig. 3a,b).

The patient was discharged after recovery,but was readmitted on 22 May 1993 because of craniocerebral trauma after generalized convulsions. Neurological examination was normal apart from the craniectomy defect and chest and skull x-rays and all laboratory data were within normal ranges; but the plain CT scan, showed a non-homogeneous contrast enhancement lesion in the left parietal region. There was no mass effect or oedema (Fig. 4).

MRI showed parenchymal haematoma and siderosis without occult vascular malformation in the left parietal region (Fig. 5). The patient was treated with anti-oedema and anti-epileptic drugs. After about 45 days the lesion spontaneously resolved (Fig. 6).

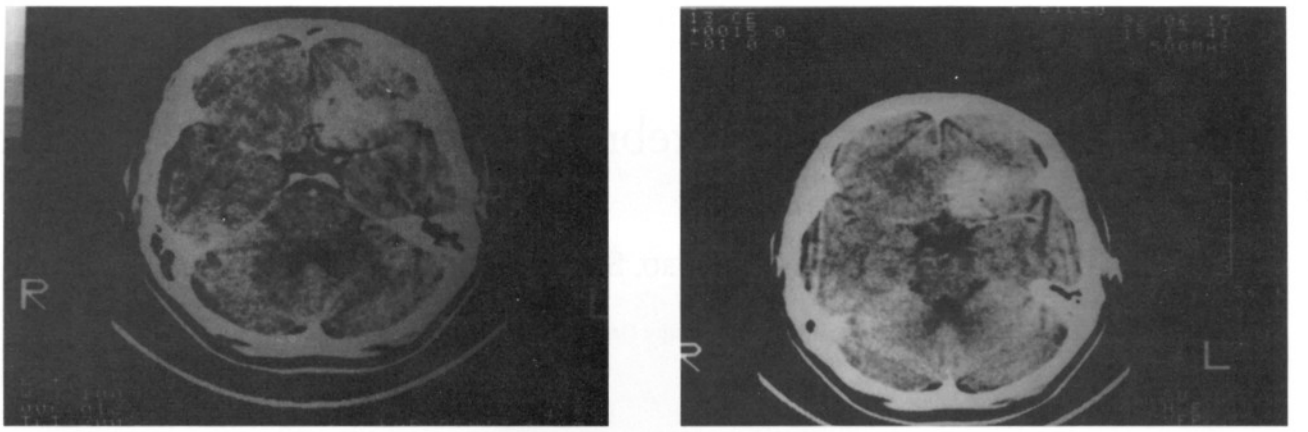

Fig. 1a : Preoperative computed tomography showed heterogeneous density mass in the left frontal region.
b : Minimal rim enhancement after injection of contrast medium.

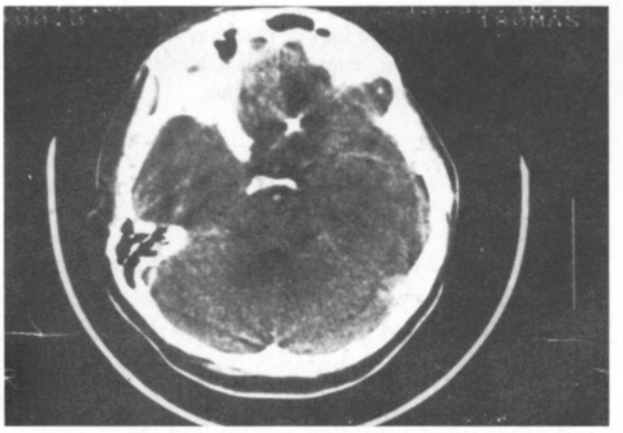

Fig. 2 : Post-operative computed tomography.

DISCUSSION

Chronic encapsulated haematoma was first reported by Hirsh et al in 1981 (5). Possible aetiological factors of encapsulated intracerebral haematoma include arterio-venous malformations, cavernoma (13) and head trauma (7,9). It differs from intracerebral haematoma which includes capsule formation and no spontaneous resorbsion. The formation of a capsule may be related to repeated haemorrhages caused either by a vascular malformation or neovascularity progressively developing aroun the lesion (13).

Encapsulated intracerebral haematoma (EICH) has been compared to chronic subdural haematoma because of new blood vessels rupturing and causing bleeding inside the haematoma cavity increasing its size or by newly-formed capsular macrocapilliaries developing increased permeability and leaking blood products into the capsule and the haematoma cavity, thus provoking an increase in the size of the lesion (13). The first lesion of our patient was removed totally. At operation no abnormal vessels were encountered outside or inside the capsule, but ; no clear cause could be determined. The second lesion of the patient may be related to the head trauma and the haematoma probably resorbed spontaneously before the development of capsule formation.

Although in the literature three cases of recurrent haemorrhage were reported, there was no spontaneous resorbtion (8,12).

In conclusion, in cases which developed encapsulated haematoma, aetiology was not clearly understood, but we believe that the craniocerebral trauma can play a role.

Encapsulated ıntracerebral haematomas (EICH) must be kept in mind in the differential diagnosis of intracranial mass lesions and the lesion must be investigated for vascular abnormalities during surgery.

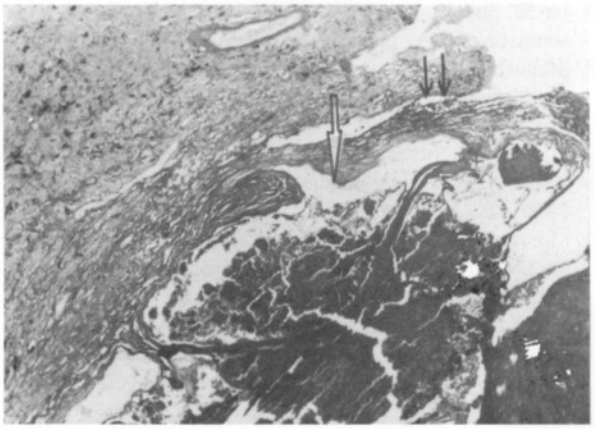

Fig. 3 a : Photomicrograph of the capsule of encapsulated intracerebral haematoma. Haematoma area (arrow) and fibrous coating (double arrow) (HEx40).
b : Photomicrograph shows capillary (C) proliferation at the periphery of the haemorrhage area (HEx40).

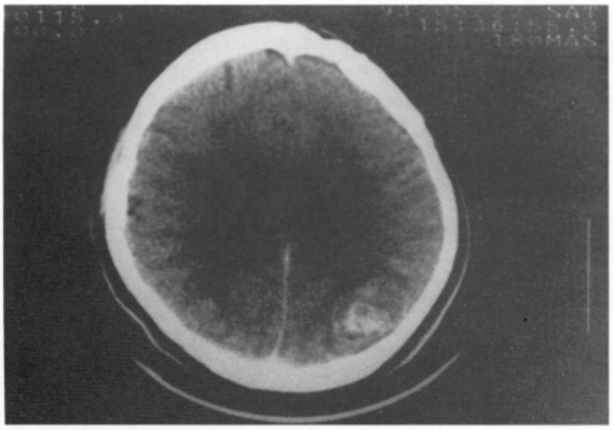

Fig. 4 : Comuted tomography of the second of the second lesion, showed a nonhomogeneous contrast enhancement lesion in the left parietal region.

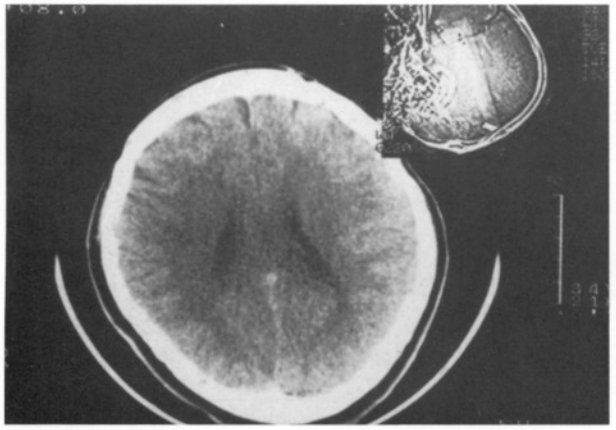

Fig. 6 : Enhanced CT scan. The lesion resolved.

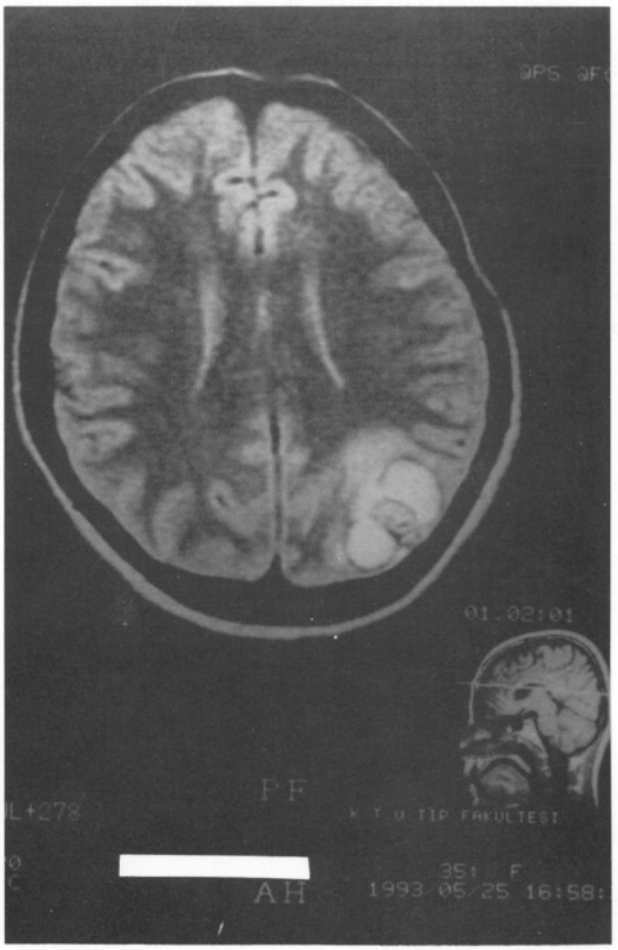

Fig. 5 : Magnetic resonance imaging showed parenchymal haematoma and siderosis without occult vascular malformation in the lenf parietal region.

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