Hemichorea Resulting from Single Enhancing Computed Tomography Lesion

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Abstract

A single small enhancing computerized tomographic lesion is a common finding in Indian patients with seizures, particularly focal seizures. A small single enhancing computed tomography lesion also presents with varied non-epileptic manifestations viz. focal neurological deficits, episodic vascular headache, syndrome of increased intracranial pressure, etc. Here we present a case of hemichorea resulting from single enhancing CT lesion.

A 12-year-old female presented with acute onset abnormal movements involving right side of body. A clinical diagnosis of right hemichorea was made and patient was subjected to neuroimaging along with other investigations. CT scan showed a single ring-enhancing lesion with perifocal edema in left thalamic area suggestive of neurocysticercosis. Patient was treated with albendazole, steroids and haloperidol therapy. Patient showed marked improvement at follow-up after one month. Repeat CT scan revealed resolution of lesion.

This case has been reported because hemichorea in young female is usually caused by post-streptococcal infection and it is quite rare presentation of small ring enhancing lesion.

INTRODUCTION

It is very common to find single small enhancing computerized tomographic lesion in Indian patients presenting with seizures, particularly focal seizures. Apart from this common presentation of acute symptomatic seizures, a small single enhancing CT lesion can cause various non-epileptic manifestation e.g. episodic vascular headache, focal neurological deficits etc. Here we report a case of hemichorea resulting from single enhancing CT lesion.

CASE REPORT

A 12 years girl presented with acute onset, abnormal jerky, involuntary arrhythmic movements on right side of body for last one month. For the same duration she had difficulty in walking. These abnormal movements got disappeared during sleep. There was no history of chest pain, palpitation, orthopnoea, joint pains and nodular swelling on any part of body. Similarly there was no positive history of cognitive decline, seizures, jaundice, mental retardation, behavioural abnormality or rash over any part of body. There was no history suggestive of drug intake, which could cause abnormal movements. On examination thyroid gland was not enlarged. Patient was normotensive. Examination of cardiovascular system did not reveal any abnormality. Chest and abdomen examination was normal. There was no evidence of Kayser-Fleischer ring on slit lamp examination. Higher mental functions were normal. Patient had unilateral rapid, jerky, arrhythmic involuntary movements on right side of body. These abnormal movements were in form of shoulder shrugging, extension and flexion movements of fingers and toes, supination and pronation of forearm and grimacing movements of face and frequent blinking on right side. Motor system revealed normal power in both upper and lower limbs. Rest of the neurological examination showed no abnormality.

On investigations, antistreptolysin O titre was within normal limits. Haematological, biochemical parameters and urine analysis did not reveal any abnormality. X-ray chest, electrocardiogram and electroencephalogram were normal. Computerized scan tomography showed small ring enhancing lesion and perifocal edema in left thalamic area. Magnetic resonance imaging of cranium confirmed the same findings. Patient was treated conservatively and was given haloperidol, albendazole along with steroids in tapering dosage. Patient showed marked improvement at follow-up after one month and repeat CT scan showed resolution of lesion.
DISCUSSION

In this case study a young female presented with right-sided hemichorea caused by a single small enhancing lesion in left thalamic area on computerized tomography scanning.

A single small enhancing CT lesion is the commonest cause of acute symptomatic seizures particularly focal seizures. However in countries where neurocysticercosis is endemic, small enhancing CT lesion more often presents a solitary cysticercus granuloma. Since the etiology of the lesion was unclear, so the term SSECT (small single enhancing computerized tomography) lesion has been used to describe these findings.

The diagnosis of solitary cysticercus granuloma is confirmed only if anyone of the following conditions fulfilled on subsequent monitoring

a) The lesion resolves spontaneously or following albendazole therapy.

b) If a lesion persists on the follow-up CT scan, but is smaller or of the same size as the original lesion in a patient who does not present new symptoms or signs.2

In young female the commonest cause of chorea is Sydenham’s chorea (rheumatic chorea). It is characterized by acute or subacute onset of involuntary movements following a febrile illness. Evidence of previous infection with group A hemolytic streptococci will be found in 20%-30% of patients. Chorea usually consists of fine and more rapid movements than those seen in Huntington’s disease. Hemichorea is a common presenting variant. Most cases occur before 15 years of age with preponderance among girls during teen years.3

In our patient hemichorea occurred due to small enhancing lesion in left thalamic area.

Alarcon F et al, in their study reported twenty patients of post-stroke chorea. They found that seventeen patients suffered from hemichorea. Imaging in these post-stroke patients revealed involvement of thalamus alone or with other adjacent structures in eleven patients.4

Brain tumors rarely present with movement disorder. Intrinsic tumors involving the thalamus can present with hemichorea. In the case of direct tumor infiltration hemichorea can develop before identification of primary malignancy and improves following resection.3

Thalamic involvement can occur because of various types of neuro-infections. Important nervous system infections affecting the thalamus are Japanese encephalitis, Herpes simplex encephalitis, tuberculous meningoencephalitis, toxoplasmosis, cryptococcal meningo-encephalitis and neurocysticercosis.

Rarely, Epstein Barr virus, influenza type B virus, Mycoplasma Pneumoniae and progressive multifocal leukoencephalopathy lead to thalamic involvement.

In different studies in patients with Japanese encephalitis neuroimaging especially MRI revealed thalamic abnormalities and diffusion weighted imaging can help in making early diagnosis of Japanese encephalitis with characteristic bilateral involvement of thalamus.5

Narai H et al described the serial changes of magnetic resonance imaging (MRI) in a patient with chronic cryptococcus meningoencephalitis. In the subacute phase MRI revealed a focal lesion with hyperintensity on T2 weighted image in the left thalamus, which showed
gadolinium enhancement on T1 weighted image. Cryptococcoma should be in the differential from other ring enhancing lesions.

In conclusion it can be said that small ring enhancing lesion sometimes can cause hemichorea, although in young female the commonest cause is rheumatic chorea.

**REFERENCES**


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**Announcement**

Registrations are now open for **XIIIth National CME in Haematology, Bombay Hospital Institute of Medical Sciences Mumbai. 4th - 7th January 2007 (Thu-Sun).**

Confirmed international faculty includes: ●Barbara Bain, UK; ●Nicki Panoskaltsis, UK; ●Ajay Vora, UK; ●Dudley Pennell, UK; ●A. Rahemtulla, UK; ●Rajiv Pruthi, USA; ●Bakul Dalal, Canada; ●Renzo Galanello, Italy; ●David Dennison, Muscat

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