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ATYPICAL PRESENTATION OF DISSEMINATED NEUROCYSTICERCOSIS : LARGE CYSTIC CAVITY IN PONS

General Medicine

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ABSTRACT

NCC is most common parasitic infection of central nervous system. Human acquired cysticercosis by ingestion of food contaminated with ova of Taenia Solium. There are mainly two types of Neurocysticercosis : Parenchymal Neurocysticercosis in which brain tissue is involve; Extraparenchymal Neurocysticercosis which occur outside brain tissue like ventricles or Subarachnoid space. Other locations like Spinal cord (intra or extramedullary), Eye and Skeleton muscle can also be involved in Cysticercosis. In our case its location in Pons is rare and its large size also so we have reported this case.

KEYWORDS

Neurocysticercosis, Pons, Large size, Ataxia

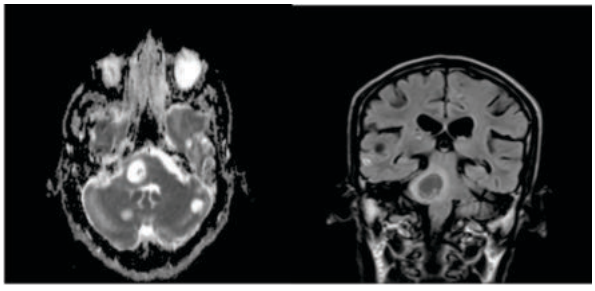
INTRODUCTION

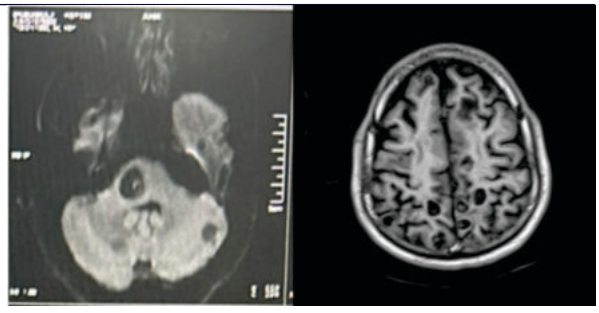
Neurocysticercosis is most common subacute/chronic pleomorphic parasitic infection caused by ingestion of food contaminated with eggs of parasite Taenia Solium. The most frequent involved sites are central nervous system, eye, muscle but it can involve any organ.[1] Mostly transmitted through fecal – oral route. Massive neurocysticercosis is rare and potential enough to cause death.[2] Neurocysticercosis is an important cause of neurological disease worldwide even in nonendemic countries. Endemic regions for Neurocysticercosis are the most Latin America, Sub – sarahan Africa and Asia including India, southeast Asia & China. Nowadays increasing prevalence of NCC in developed countries due to immigration and international travel.[2] It is endemic in most of developing country including India, where condition favouring the transmission of disease is available like poor sanitary condition, poverty and illiteracy. In developing country neurocysticercosis is most common cause of acquired seizure and become major Public Health Problem.[3] Here we present a case of adult with large cysticercosis with mass effect in Pons, an uncommon location.

Case Study

A 45 year old male patient presented with chief complain of difficulty in walking, imbalance with tendency to fall. Patient has also history of abnormal movement of limbs which starts from right lower limb gradually progress distal to proximal and over period of 10 – 15 minutes also involve right upper limb from last 2 years. For which started on medication Tab. Clobazam from periphery medical practioner from last 6 months. Seizure is also followed by loss of consciousness which last for approximately 4 – 5 minutes, urinary incontinence and postictal confusion. On examination pulse – 72 bpm, BP – 130/86 mmHg, SpO_2 – 96% on room air. Patient was conscious and oriented to time, place and person. There was hypertonia in all four limb with all deep tendon reflexes were exaggerated and spastic ataxic gait. 4/5 power in all limb. No any history of diplopia and no sign of any cranial nerve palsy.

All routine investigations and contrast enhanced MRI Brain were done which suggestive of variable sized ring enhancing cystic lesions appearing hypo intense on T1W and hyper intense on T2W with suppression on FLAIR images are seen at grey white matter junction of bilateral cerebral hemisphere, bilateral basal ganglia, bilateral cerebellum, right thalamus and pons.





Among all cystic lesion largest lesion measuring approximately 24*20*21 mm (AP*TR*CC) in right hemi pons showing marked perilesional edema extending into middle cerebellar peduncle causing mild effacement of 4th ventricle. Lesions shows hypo intense focus – scolex and mild perifocal edema. Location of large sized cystic cavity of NCC is Pons is uncommon so reported this case.

DISCUSSION :-

Human cysticercosis has diverse manifestation. Parenchymal NCC can present as new onset of partial seizure with or without secondary generalization. Subarachnoid or ventricular NCC has feature of raised ICP due to interference of CSF flow. Spinal NCC can mimics like intraspinal tumor. Ocular NCC can present with decreased in vision, diplopia, or ophthalmic pain. There are 4 stages of NCC – Vesicular stage, Colloidal stage, Granular stage and Calcified stage. Vesicular stage has cystic lesion with viable scolex without edema – "Hole with dot appearance". Colloid and Granular stages are degenerating cysticercosis appears as single or multiple ill – defined lesion surrounded by edema – appear as ring or nodular enhancement in contrast medium. Calcified (dead) cysticerci appear on CT as small hyperdence nodule or on MRI as small hypodence dots.[3] When cysticerci lodge in brain parenchyma cause inflammatory response which is responsible for seizure. As cyst degenerates then no inflammatory response and no seizure. Human cysticercosis is caused by ingestion of food contaminated with egg of Taenia solium.[4] Gastric juice dissolve the outer layer of ova and release the primary larvae or oncospheres (hexacanth embryo) which penetrate the mucosa and enter into bloodstream. They can abode in any tissue but have soft spot for brain parenchyma.[5,6] WHO and Infectious Diseases Society of America/American Society of Tropical Medicine and Hygiene guidelines emphasize the role of corticosteroids and antiparasitic drugs. Subarachnoid NCC is associated with high mortality rate if note optimally treated. Subarachnoid NCC may require prolonged anti parasitic and anti inflammatory courses.[7] Antihelminthic – Albendazole(ABZ) is broad spectrum anti parasitic agent active against roundworms, lungworms and tapeworms. ABZ interferes with glucose uptake, limits their glycogen stores and also affects the production of ATP. After absorption it is rapidly converted in liver in Albendazole sulfoxide (ABZSO) which is active form of drug.[8] Albendazole monotherapy is recommended for one or two parenchymal cysts. A combination of Albendazole and Praziquantel is

recommended for patients with more than two viable cysts. Dose of Albendazole is 15 mg/kg/day in two divided dose and Praziquantel is 50 mg/kg/day for 10 – 14 days. Glucocorticosteroid should be start prior to anti helminthic therapy to reduce host immune response to degenerating parasites. There is universal agreement that calcified cyst should not be treated with antihelminthic therapy. Antiepileptic therapy should be prescribed because epilepsy is the most common presenting feature of NCC when location is in parenchyma.[4]

CONCLUSIONS

The presented case has uncommon location of cystic lesion of parenchymal NCC at Pons with mass effect. Patient has history of seizure from last 2 years which is under control with tab. Clobazam from last 6 months and presently complain of difficulty in walking with tendency to fall. So initially we through for any intracranial space occupying lesion and MRI Brain with contrast was done. We incidently found that Parenchymal NCC with large size cystic at uncommon location in Pons producing mass effect.

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