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A Rare Case of Opthalmoplegia in Tuberculosis

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Abstract: *Neurotuberculosis usually manifests as meningitis, tuberculoma, abscess or as vasculitis. Mycobacterium tuberculosis as an etiological factor for cavernous sinus thrombosis is extremely rare. Tuberculous bacteria causing multiple infarcts involving anterior and middle cerebral artery territories and cavernous sinus thrombosis along with tuberculoma.*

Keywords: *Cavernous* sinus thrombosis, Tuberculosis, Stroke, Tuberculoma.

I. Case Report

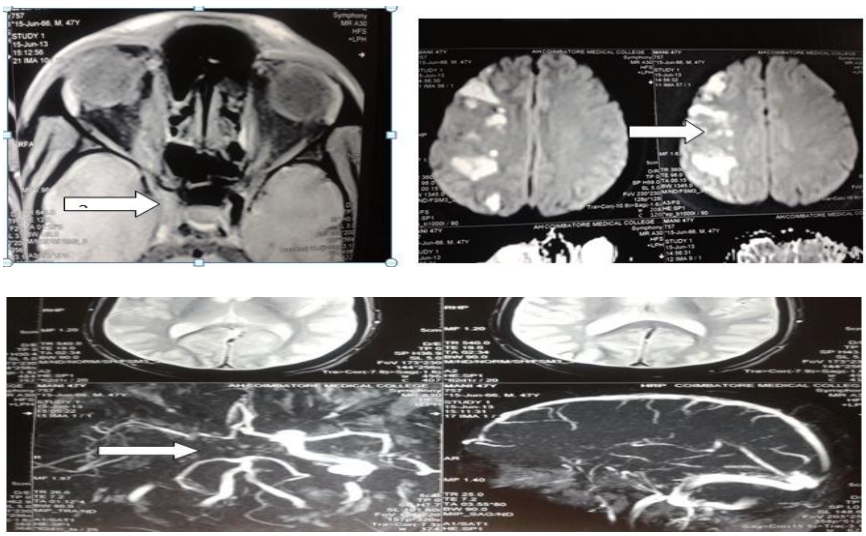
A 47 years old male patient, who was working as an agricultural labourer presented with chief complaints of dental pain of 15days duration, with swelling on right side of the face and eye, headache, reduced sensation over right side of the face and double vision for 5 days.There was no history of dysphagia, dysarthria, motor deficits, sensory deficits, altered sensorium, involuntary movements or seizures. There was no history of recent travel, contact with pets or drug intake. There was no history of sexual promiscuity. He consumes mixed diet, and is a smoker for past 10 years and not an alcoholic. He is a diabetic on oral hypoglycemic drugs for past 5 years. There was no other significant history, past history, family history and treatment history.

On examination, Patient was conscious, well oriented, afebrile, with complete ptosis on the right side along with chemosis. There was no icterus, cyanosis, clubbing and pedal edema. Patient was anaemic. Cardiovascular, respiratory, and GI systems were normal. The central nervous system showed ptosis and extra ocular movements were restricted and the sensations were diminished on right side of the face.

Investigations on the day of admission showed, a total count of 9,900, with differential count of 76% of polymorphs and20% of lymphocytes. ESR was 41 mm in one hour. Blood sugar value was 226 mg%. Sputum for AFB was negative.

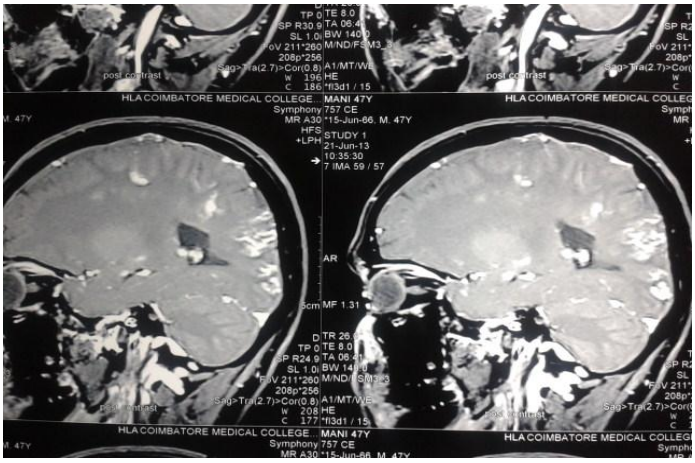
Renal function tests, urine routine , chest x -ray , ECG were normal. Patient was started on supportive management with adequate hydration and analgesics. On day 2, patient developed fever and altered sensorium, vomiting, slurring of speech, drooling of saliva and weakness of the left side of the limbs. Patient developed worsening of chemosis and aggravation of headache. MRI brain with orbit screening was requested. Subsequently the patient had developed left hemiparesis with UMN type of facial palsy, extensor plantar response on the left side. Neck stiffness was present and kernig's sign was positive.

We proceeded with CSF analysis, which showed that the protein was 100mg% (<45 mg/dl), sugar 100 mg% (<50 mg/dl), globulin was positive and cells were 140 in number, mostly lymphocytes. Adenosine deaminase was 14u(<10u).



Serum precipitins for fungus was negative, blood culture showed no growth, HIV was non reactive and the coagulation profile was within normal limits. MRI revealed acute infarct in right middle cerebral artery territory.

Cavernous sinus showed hyperintensity suggestive of thrombosis of cavernous segment of internal carotid artery. Right superior ophthalmic vein appeared prominent and the rest of the brain parenchyma appeared normal. Bilateral ethmoidal sinusitis was noted.



Post contrast study showed enhancement of right parieto occipital lobes, meningeal enhancement in the right sylvian fissure and small ring enhancing lesions (tuberculoma) in right medial temporal and occipital lobes.

Ophthalmology opinion confirmed multiple cranial nerve palsies on right side due to cavernous sinus obstruction.

Thoracic medicine opinion confirmed tuberculoma of the brain with TB meningitis and suggested starting of ATT category 1.

Patient was started on antibiotics, steroids and ATT.

Patient is now on follow up and doing well. However he has residual weakness and right 6th nerve palsy.

II. Discussion

Cavernous sinus thrombosis was initially described by Bright in 1831 as a complication of epidural and subdural infection. Due to its complex location, cavernous sinus thrombosis is the most important of any intracranial septic thrombosis[1]. With the advent of antibiotics, the incidence, morbidity and mortality has dropped down from 100% to less than 30%.

Patients can present with headache, cranial nerve palsies[2] signs of raised ICT, blindness, hypophysitis, stroke[3] and menigismus. Most common infection implicated is staphylococcus aureus followed by streptococci and rarely fungal infections depending on the host immune status. Internal carotid artery passes through the cavernous sinus and can get inflammed, thrombosed or occluded.

In our case, the presentation is very unusual. Tuberculosis causing infarcts in the anterior circulation, in anterior and middle cerebral artery territories which are the branched of internal carotid artery and causing left sided stroke is the manifestation noted here.

MRI brain with or without MRV, will confirm the diagnosis. Steroids are indicated if there is a life threatening inflammation of the brain. Decision to administer anticoagulant is highly controversial[4]and should be tailored for each patient after explaining the risk to the patient.

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