



TUBERCULOMA IN A 2 YEAR OLD CHILD SECONDARY TO EAR INFECTION: A CASE REPORT

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ABSTRACT

Tuberculosis is a significant health problem in both developing and developed countries by Mycobacterium tuberculosis complex (most commonly Mycobacterium tuberculosis). Tuberculosis of the central nervous system (CNS) is the most serious complication in children and is fatal without prompt and appropriate treatment. It is estimated that TB in brain parenchyma develops in nearly one of 300 non-treated cases of pulmonary Tb and in half the patients with disseminated Tb. Tuberculoma in the brain presents as an intracranial space-occupying lesion. Among TB patients, CNS is affected in 1.8%, and brain tuberculoma is the only manifestation seen in 24% of cases.

KEYWORDS : Tuberculosis, NTEP

INTRODUCTION

Tuberculosis is a significant health problem in both developing and developed countries by Mycobacterium tuberculosis complex (most commonly Mycobacterium tuberculosis). Tuberculosis of the central nervous system (CNS) is the most serious complication in children and is fatal without prompt and appropriate treatment. It is estimated that TB in brain parenchyma develops in nearly one of 300 non-treated cases of pulmonary tb and in half the patients with disseminated Tb.

Tuberculoma in the brain presents as an intracranial space-occupying lesion. Its location, size and perilesional oedema predisposes the manifestations like seizures, headache and focal neurological deficits. Among TB patients, CNS is affected in 1.8%, and brain tuberculoma is the only manifestation seen in 24% of cases.

Case Report

A 2 year old male child was presented with high grade fever, altered consciousness and seizures. The child presented to the ENT department 2 weeks prior with left squamosal CSOM with aural polyp for which Left mastoidectomy with tympanoplasty with meatoplasty was done. The Histopathology report from the left ear surgery showed features favouring granulomatous lesion.

The child presented to PICU with fever, altered sensorium and seizures 1 week post-op for which CT brain was done as shown in figure 1. For further establishing the diagnosis, Mri was done as shown in figure 2. Other laboratory investigations were suggestive of infective pathology with positive montoux test but the chest radiograph was normal. The sputum for CBNAAT was also negative.

The child was diagnosed with tuberculoma and was started on Anti tubercular therapy based on NTEP guidelines. On follow up after 1 year child had no seizures but came to the pediatric OPD with complaints of hyperactivity , abnormal sexual activity in sleep secondary to tubercular medications for which psychiatric opinion was advised. The psychiatric consult further solidified it was secondary to tubercular medication and advised it would subside after stopping the medication with behavioural therapy.

DISCUSSION

Tuberculomas in children are most often, infratentorial, located at the base of the brain near cerebellum. Lesions are

most often singular but maybe multiple. The most common symptoms are headache, fever. Focal neurologic findings and convulsions.

The TST is usually reactive but chest radiograph is normal. On CT or MRI, they appear as discrete lesions with significant amount of surrounding edema. Contrast enhancement can result in a ring like lesion.

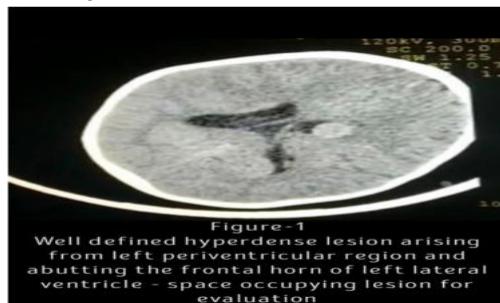


Figure-1
Well defined hyperdense lesion arising from left periventricular region and abutting the frontal horn of left lateral ventricle - space occupying lesion for evaluation

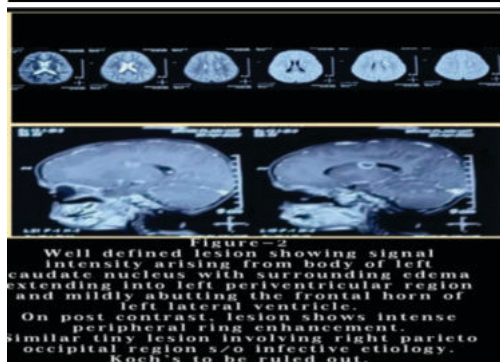


Figure-2
Well defined lesion showing signal intensity arising from body of left caudate nucleus with surrounding edema extending into left periventricular region and mildly abutting the frontal horn of left lateral ventricle. On post contrast, lesion shows intense peripheral ring enhancement. Similar tiny lesion involving right parieto-occipital region, of infective etiology. Koch's to be ruled out.

Table -1

DRUG DOSAGES FOR FIRST LINE ANTI-TUBERCULAR DRUGS	
DRUGS	DOSAGES
ISONIAZID (H)	5mg/kg/daily(4-6mg/kg)
RIFAMPICIN(R)	10mg/kg/daily(8-12mg/kg)
PYRAZINAMIDE(Z)	25mg/kg/daily(20-30mg/kg)
ETHAMBUTOL(E)	15mg/kg/daily(12-18mg/kg)
STREPTOMYCIN(S)	15mg/kg/daily(15-20mg/kg)
Pyridoxine maybe given as 10mg per day dosage.	
Streptomycin administered only in special conditions like Tb meningitis or any other drug ADR.	

Table -2

WEIGHT BAND	NUMBER OF TABLETS (DISPERCIBLE FDCs)			
	INTENSIVE PHASE		CONTINUOUS PHASE	
	HRZ(50/75/150)	E (100)	HR (50/75)	E (100)
4-7 Kgs	1	1	1	1
8-11 Kgs	2	2	2	2
12-15 Kgs	3	3	3	3
16-24 Kgs	4	4	4	4
25-29Kgs	3+1A	3	3+1A	3
30-39 Kgs	2+2A*	2	2+2A	2

*A= Adult HRZE 75/150/400/275.

Treatment includes Anti tubercular drugs as shown in the tables, corticosteroids and rarely surgical excision. Antitubercular drugs are given as 2 months of intensive phase of HRZE and 4 months of HRE. Dosages are given in Table 1& 2 according to NTEP guidelines. Corticosteroids are usually administered during the first few weeks of treatment or in the immediate postoperative period to decrease cerebral edema. Corticosteroids can alleviate the occasionally severe clinical signs and symptoms that occur.

CONCLUSIONS

Tuberculosis in children is an epidemiological indicator of recent transmission of *Mycobacterium tuberculosis* in the community. Efforts must be made to collect microbiological specimens before initiating treatment whenever possible. Management by an experienced paediatrics team allows an accurate diagnosis even when microbiologic confirmation is not possible.

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