International Journal of Health Sciences and Research
www.ijhsr.org ISSN: 2249-9571

Case Report

Unusual Presentation of Tuberculoma: A Case Report

[1]Shantanu Kumar Meher, [2]Sunil Kumar Agarwalla, [1]Tapan Kumar Biswas, [1]Subhranshu Sekhar Dhal

[1]Junior Resident, [2]Associate Professor,
Department of Paediatrics, M. K. C. G Medical College, Berhampur, Ganjam, Odisha - 760004, India.

Corresponding Author: Shantanu Kumar Meher

Received: 28/08/2016 *Revised: 22/10/2016* *Accepted: 26/10/2016*

ABSTRACT

Neuro tuberculosis is notun common in children. It may present as Meningitis or as ring enhancing lesion (REL) or space occupying lesion (SOL) like Tuberculoma or Tubercular abscess or as in farction. Tuberculoma is always considered as one of the common differential diagnosis of ring enhancing lesion of the brain in developing country like India. Tuberculoma mostly occurs due to the haematogenous spread of *Mycobacterium Tuberculosis* (MTb)**.** Clinical symptoms and signs of tuberculoma may be nonspecific. It can affect immuno competent individuals without any signs of other system involvement; sometimes it can be associated with tubercular meningitis.

Keywords: Tuberculoma, tubercular abscess, mycobacterium tuberculosis

INTRODUCTION

Tuberculosis (TB) is an infectious disease caused by *Mycobacterium tuberculosis*, which can involve multiple systems in humans. [1] Tuberculosis of the nervous system occurs due to hematogenous spread of bacilli which can involve the meninges, brain, spinal cord, cranial and peripheral nerves. Tuberculoma involving the central nervous system is not uncommon. The incidence lies variably in between 2.3% to 18%. [2] Tuberculomas are well-circumscribedlesionsvaryinginsizefromfew milimeterstoseveralcentimeters. Clinical manifestations of tuberculoma depend largely on their location and size of the lesion. The clinical presentation may be nonspecific [3,4] and objective evidence of systemic tuberculosis or exposure to the active disease may be absent in upto 70% cases. [5] Any neuro developmentally normal child presented with unprovoked seizure who on neuro imaging show neuro granuloma, this may be due to Neuro cysticercosis or tuberculoma. Commonly seizure semiology may be CPS or generalised. Here we are going to report a case of tuberculoma with a typical presentation.

CASE REPORT

A 1.5 yr male child born out of non consanguineous marriage from low socio-economic class brought with complain to fan-abnormal cheek swelling on left side and intermittent fever for last 6 month. His mother also noticed slow and progressive enlargement of head for last 1 month. There was no history of seizure, vomiting, altered sensorium or any focal neuro logical deficit. There was no history of birth asphyxia and postnatal his to was uneventful. But he had positive eh/o contact with active TB.

Onexamination was irritable, afebrile, vitals were stable, some pallor, no icterus, cyanosis, clubbing, edema, but having a cheeks wellington left side of size

(1×2) cm, (Fig 1) firm, nontender, smooth surface with ipsilateral submandibular lymphadenopathy of size (2×3) cm. Cardiovascular and Respiratory system-normal, GI system-soft, liver enlarged 2cm,firm,nontender,smoothsurface,moveswithrespiration, rest normal, CNS- child was irritable, anterior fontanelle was full (Fig 2), no meningeal signs, no cranial nerve deficit, sensory and motor system-normal, b/l plantar was flexor, no cerebellar sign, b/l pupil normal and reacting to light, skull and spine-normal.

Fig 2: full anterior fontanelle

Fig 1: cheek swelling (left)

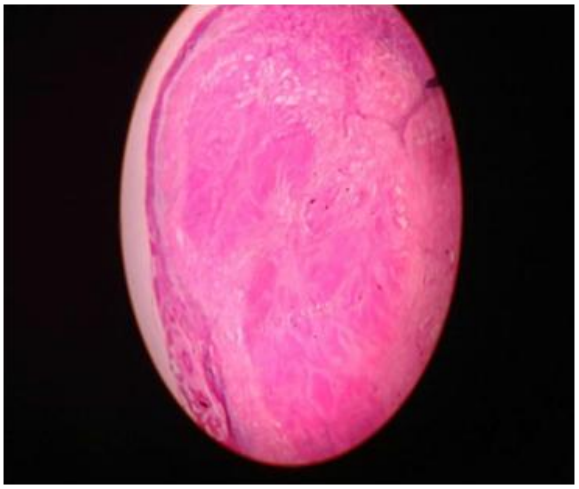

Fig 3: FNAC showing caseating granuloma

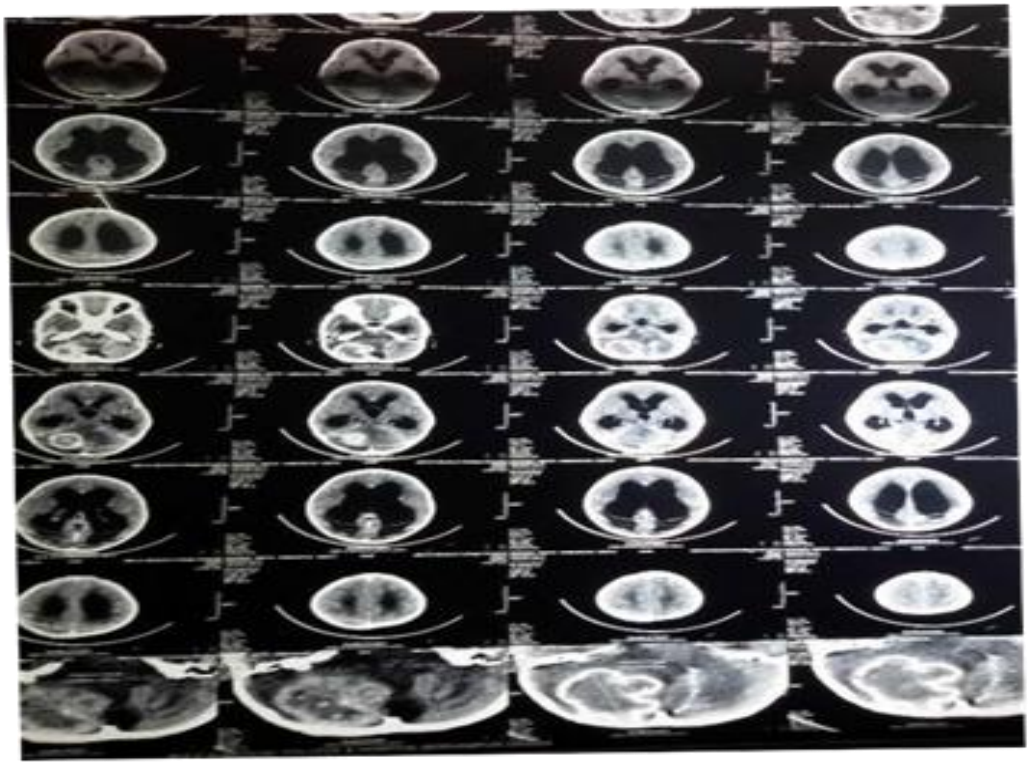

Fig 4: CT scan showing tuberculoma & hydrocephalus

On investigation Hb-9.4 gm, TLC-8600 with lymphocytic predominance, TPC-3.2 lac, MPICT-ve, ESR-10mm, MTx-Reactive (16mm), Chest X-ray-normal, ICTC-nonreactive, Fundoscopy-Early papilloedema, CSF Study-normal, Gastric aspirate for AFB-vein3 occasions, FNAC of cheeks welling and submandibular lymph node shows caseating granuloma with degenerated lymphocyte and histiocytes, (Fig 3) CTSCAN brains how sir regular enhancing lesion of huge size (5×4) c'mon right cerebellar region with central calcification and dilatedlateral and third ventricles/o obstructive hydrocephalus. (Fig 4, 5)

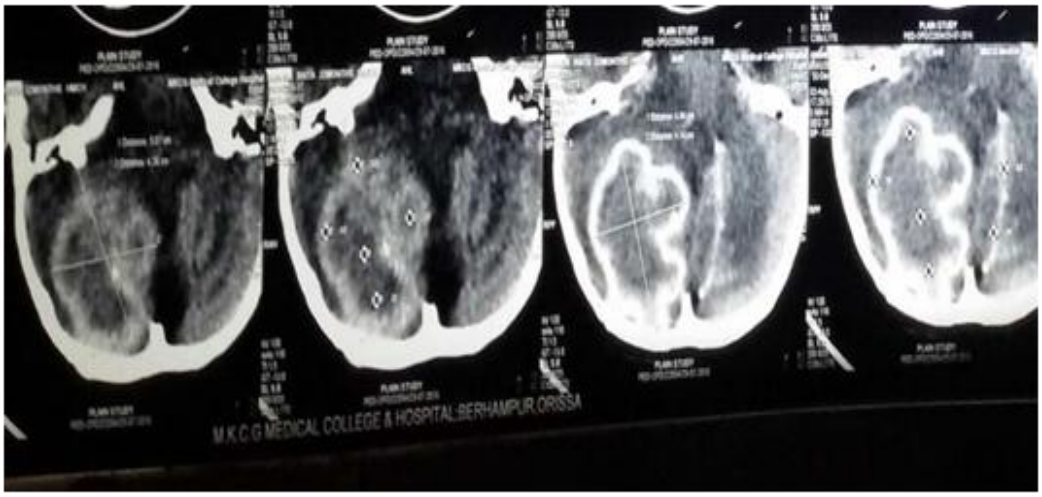

Fig 5: CT scan showing tuberculoma with central calcification

DISCUSSION

Intracranial tuberculoma is a rare form of extrapulmonary tuberculosis, most frequently result from haematogenous spreading from a primary focus, characteristically most often from the lung, [6] these tuberculous lesions can occur anywhere in the brain, but usually located in brain where blood flow is greatest, mainly in the cerebral or cerebellar hemispheres but rarely in the brain stem (only 4%) and basal ganglia. [7] Supratentorial tuberculomas occur most frequently in adults and infratentorial tuberculomas in children. [6]

During the phase of haematogenous disseminations mall tuberculous lesions may develop in central nervous system and after years of quiescence, the bacilli contained in these lesions may multiply and invade the cerebrospinal fluid. The cerebral involvement may result from the rupture of subependymal tuberculous foci into the subarachnoid space rather than from direct haematogenous dissemination from pulmonary and extrapulmonary lesions. [8]

Clinical manifestations of tuberculoma depend largely on their location and size, patients often presents with head ache, seizures, papilledema, altered sensorium, signs of raised intracranial pressure, sign of focal neuro logical deficit. Here, we report a patient with a typical presentation of tuberculoma, who presented as pyrexia of unknown origin and slow, progressive enlargement of head as noticed by mother without seizure.

A tuberculoma can appear as a nodular or ring-enhancing lesion. Calcification occurs in only 1-6%, which is described as "target sign"-a central area of calcification with peripheral ring-enhancement. [9] Tuberculomas are generally found as solitary or multiple lesion with thick irregular wall and perilesional edema and when they are too big they may show amass effect or midline shift.

When intra cranial tuberculoma is seen with meningitis, it is easier for diagnosis. But isolated intra cranial tuberculomas are generally difficult to diagnose when they do not present with

seizure. The diagnosis is suspected by positive family history of contact, history of fever, high ESR, positive tuberculin test, other evidence of tuberculosis like chest radiography and sputum or gastric aspirate for acid fast bacilli and positive response to anti-tuberculosis treatment. CSF analysis is often not helpful, may show normal cell count with slightly elevated protein levels and normal glucose concentrations. [10] Radiological imaging is important for diagnosis and following the treatment course. To provide histological diagnosis of brain lesions, CT-guided stereotactic brain biopsy has been used, because it is less invasive technique as compared with open brain biopsy (OBB). [11]

Anti-tubercular treatment started on radiological and laboratory basis as in our case. Anti-tubercular drugs are usually given for a period of 1 yr (2HRZE+10HR) along with steroid for 6-8 wk. Most of the patient responded well within 3 months as in our case. Anti tubercular therapy and serial CT scans must be the first choice of treatment. Surgical resection is indicated for lesions that cause increased intracranial pressure, severe neurological deficits and failure to respond to drugs. [12] Total resolution of the tuberculoma is observed when scans demonstrate no enhancing lesions or only an area of calcification.

CONCLUSIONS

Though tuberculosis is most prevalent in developing countries like India, it is also well known by its diversity of presentation. This case was brought to us with unusual presentation like cheeks welling for 6 month and non-fusion of anterior fontanelle (AF) with a background of PUO and diagnosed as tuberculoma by the CT scan of brain. After 3 month on follow up child is well, the cheeks welling disappeared and plan was made for repeat CT scan at 6 month.

REFERENCES

1. Kumar V, Abbas AK, Fausto N, Mitchell R. Robbins Basic Pathology. Elsevier Health Sciences; 2007
2. Villoria MF, dela Torre J, Fortea F, Munoz L, Hernandez T, et al. (1992) Intracranial tuberculosis in AIDS: CT and MRI findings. Neuroradiology 34: 11-14.
3. Loizou LA, Anderson M (1982) Intracranial tuberculomas: correlation of computerized tomography with clinico-pathological findings. QJMed51: 104-114.
4. Talamás O, Del Brutto OH, García-Ramos G (1989) Brain-stem tuberculoma. An analysis of 11 patients. Arch Neurol 46: 529-535.
5. De Angelis LM (1981) Intracranial tuberculoma: case report and review of the literature. Neurology 31: 1133-1136.
6. Turgut M, Özcan OE, Özgen T. Saglam S, Bertan V, Erbengi A: Tuberculomas of the craniospinal ax. is. Türkish Neurosurgery1:34-38, 1989.
7. Van Woensel JB, Hoogeveen CG, Begeer JH, Visser G, Kimpen JL (1995) Intracranialtuberculosis in The Netherlands: four paediatric cases. Eur J Pediatr 154: 546-550.
8. Lobhard, N., Bicold, L. and Zellweger, J. P. Cerebral tuberculosis in the Immunocompetent host: 8 cases observed in Switzerland. Tubercleand Lung Dis., 1994, 75, 454.
9. Welchman JM. Computerized tomography of intracranial tuberculomata. Clin Radio/1979; 30: 567-573
10. Talamas O, del Brutto OH, Garcia-ramos G: Brainstem tuberculoma. Arch Neurol 1989, 46: 529.
11. Mohanty A, Venkatarama SK, Vasudev MK, Khanna N, Anandh B: Role of stereotactic aspiration in the management of tuberculous brain abscess. Surg Neurol 1999,51: 443-6.
12. Hejazi N, Hassler W (1997) Multiple intracranial tuberculomas with a typical response to tuberculostatic chemotherapy: literature review and a case report. Acta Neurochir (Wien) 139: 194-202

How to cite this article: Meher SK, Agarwalla SK, Biswas TK et al. Unusual presentation of tuberculoma: a case report. Int J Health Sci Res. 2016; 6(11):287-290.

****