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RESEARCH ARTICLE

Tubercular brain abscess mimicking as Pyogenic abscess in a 9 year old immunocompetent vaccinated female child:- A case report

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Abstract

Central Nervous System Tuberculosis may present as commonly encountered Tuberculous Meningitis or Tuberculous mass lesions (Tuberculoma) and rarely as Tubercular brain abscess[1].Patient should be looked for primary pulmonary tuberculosis or any other body organ involvement [2]. Differentiating Tubercular abscess from pyogenic brain abscess is a diagnostic challenge. The authors here in present a case of tubercular brain abscess in a 9 year old female with short history and rapid progression of neurological deficit. Neuroimaging revealed brain abscess but diagnosis was confirmed later on neurosurgical intervention and identification of AFB in pus. Clinically one cannot differentiate Pyogenic brain abscess from Tubercular brain abscess. Moreover, Tuberculous brain abscess can manifest acutely with sudden deterioration of neurological function .We stress on staining of pus for acid fast bacillus even pus should be sent for PCR for tubercular bacilli.

Introduction:-

Tubercular brain abscess was first described by Evans and Rand [3]and is still rare in literature as aetiology of brain abscess in immune competent [4], fully vaccinated, nutritionally adequate HIV negative child, who recovered completely after neurosurgical intervention and full course of ATT[4],[5][6]

Case Report:-

9 years old female nutritional well built, fully vaccinated presented to us with complaints of Fever since 15 days, Headache since 2 days, Vomiting two episodes since 2 days and backache since 2 days. Fever was insidious in onset, moderate grade, intermittent. She had two episodes of non-projectile non-bilious vomiting which relieved with

antiemetics. She was constantly complaining of dull aching pain in lower back and relieved with analgesics. She had no history of abnormal body movements or any trauma. She was given 10 days injectable antibiotics for enteric fever as her previous blood culture was positive for *salmonella typhi*. No history of tuberculosis in family and no history of contact with tuberculosis. On General Examination, she was conscious, cooperative and oriented. BCG scar present, on admission her GCS was 15/15, Temperature 98.6 Fahrenheit, Pallor present, icterus, cyanosis and edema absent, no lymphadenopathy. Heart rate was 86 /min, regular, respiratory rate was 22/min, regular. Chest had bilateral air entry, no adventitious sounds. Cardiovascular system was normal, no abnormal sounds. Her central nervous system examination was normal on first day of admission. During hospital stay, on 4th day, she developed bilateral 6th nerve palsy and weakness in lower limbs grade 3/5 power, weakness was more on left side of body, tone was decreased and reflexes (++), upper limbs had normal power, tone and reflexes. Planters were initially normal, later were extensor, superficial sensations and deep sensations were intact. The neurological deficit increased in hospital and GCS dropped to 11/15. Child was initially investigated for enteric fever and systemic complications of enteric fever were kept in mind, simultaneously child was investigated for tubercular meningitis.CBC showed Neutrophilic leucocytosis. ESR was 25 mm, peripheral blood smear showed microcytic hypochromic anemia, in next blood culture no growth was obtained after five days of incubation, widal test was positive, HIV Negative, fundoscopy showed bilateral papilloedema, bilateral 6th nerve palsy, montoux test

negative.Three early morning empty stomach gastric aspirate samples were negative for AFB, CSF analysis showed Sugar 46 mg /dl, Protein 120 mg /dl, TLC 202 /hpf Predominantly Neutrophils, RBC 3/hpf,
Neuroimaging showed ring enhancing lesion with two daughter abscess in right occipitoparietal region with surrounding edema (Fig 1and Fig 3). MR Spectroscopic evaluation showed decreased choline peak with elevated levels of lactate consistent with abscess. Neurosurgical consultation done in view of large abscess (size more than 2.5 cm) with daughter abscesses and increasing neurological deficit. Neurosurgical drainage of abscess planned. Right occipitoparietal craniotomy was done and around 50 ml thick, yellowish pus was drained, sample was sent for staining, culture and sensitivity. Acid-fast bacilli were identified on AFB staining which was subsequently grown in culture and reported sensitive to all anti tubercular drugs. Anti tubercular treatment was started. After two months of intensive phase, child was afebrile, her neurological status improved, lower limb power was 4/5. Tone and reflexes were normal. Bilateral sixth nerve opthalmoplegia recovered. It was related to raise intra cranial tension.

Discussion:-

Our case and aim of reporting this case of tubercular brain abscess is about how CNS tuberculosis can manifest and can itself become a diagnostic challenge in resource poor country, as it is difficult to differentiate it clinically from pyogenic abscess [7] and other causative agents .The gold standard of diagnosis is made after obtaining AFB from pus aspirated or on PCR for tubercular bacillus .M R spectroscopy is able to differentiate ring enhancing [8] lesions between abscess, tumour or hamartoma. It is further able to differentiate a pyogenic abscess from tubercular abscess on basis of coefficient gradient of pus which depends on amino acid and fat levels in pus[9]. In our case MR spectroscopy guided us about existence of pus filled cavity with decrease in choline and NAA peak and increase in lactate levels consistent with abscess .In this case AFB were stained in pus and grown in culture.

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References:-

1. Whitener Dr:Tuberculous brain abscess: report of case and review literature.Arch Neurol 1978,35:148-55
2. Rand, C.W.: Tuberculous abscess of the brain secondary to tuberculosis of the caecum; Surg.Gynaecol.Obstet;1935,60,229
3. Evans, G.F. and Smith, C.F.: Tuberculous abscess of the brain.Case report; Am. Rev. Respir. Dis. 1931, 24,292
4. Dohe V B, Deshpande S K, Bharadwaj R S, B J medical college Pune Tubercular brain abscess in 23 year old immunocompetent patient case report Indian J Tuberc.2010 Apr ;57(2):102-3
5. Vijaykumar B,Sarin K,Mohan G. Tubercular brain abscess and subdural empyema in an immunocompetent child: significance of AFB staining. Ann Indian Acad Neurol.2012Apr 15(2):130-3
6.Rab, S.M.,Bhatti,I.H.,Ghani,A.et al: Tuberculosis brain abscess.Case report;J.NeuroSurg;1975,43,490
7. Muzumdar D,Balasubramaniam S,melkundi S. :Tuberculous temporal
brain abscess mimicking otogenic brain abscess.PediatrNeurosurg.2009;45(3):220-4
8. Reichentral e,cohen ML,Schujman E,Eynan N,Shalit M. Tubercular brain abscess and its appearance on computed tomography.J Neuro surge 1982;56:597-600
9. Gupta RK, Vatsal DK, Husain ,Chawla S, et al. differentiation of tubercular from pyogenic abscess with in vivo MR spectroscopy magnetization transfer MR imaging.Am J Neuro radiol 2001;22:1503-9

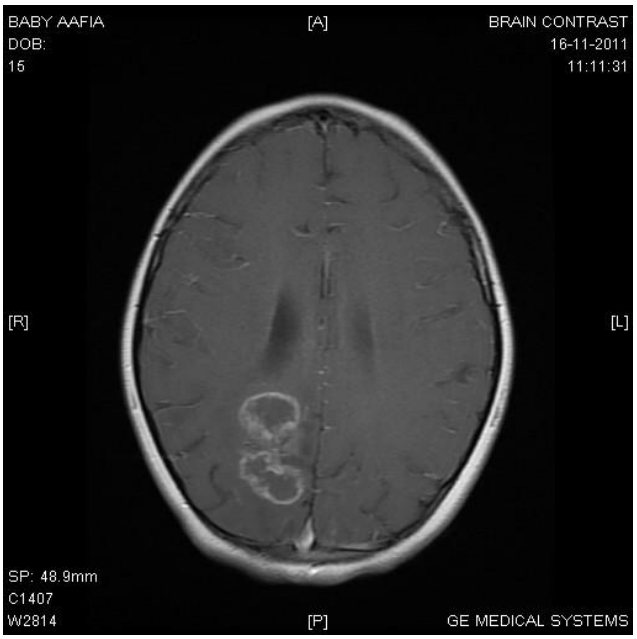

Fig 1:- Ring enhancing lesion : Abscess with daughter abscess.

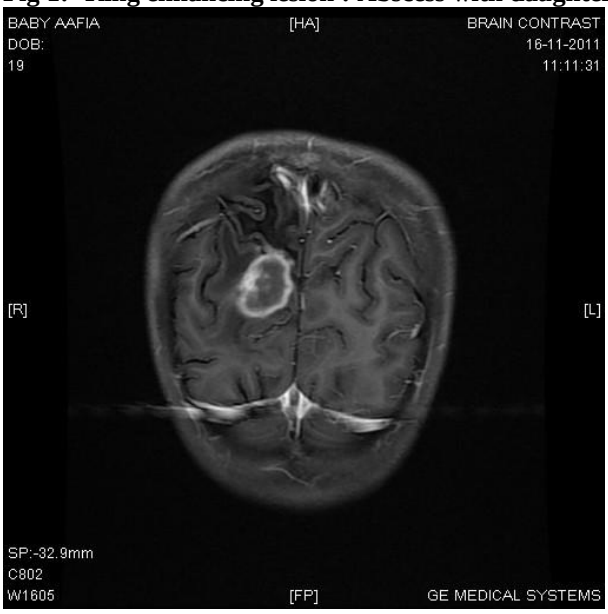

Fig 2 : Ring Enhancing Lesion.

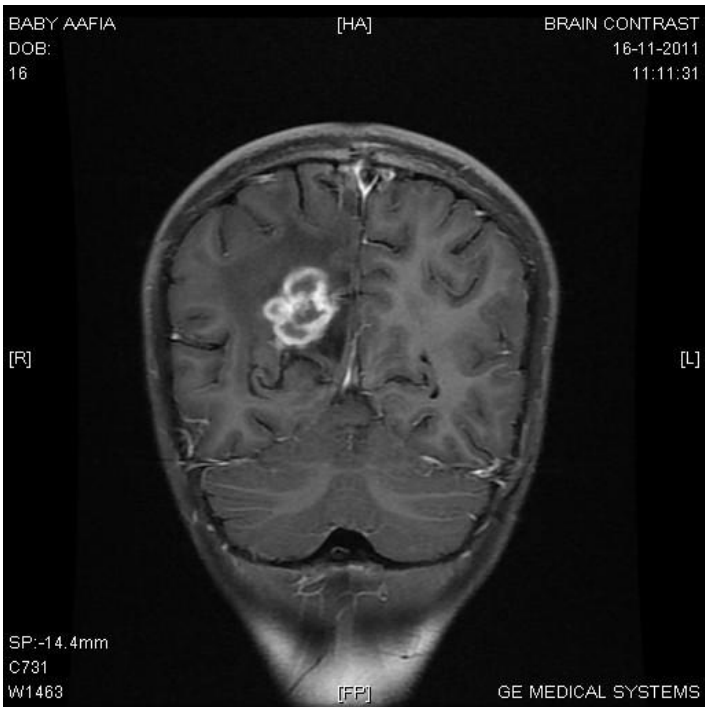

Fig 3 : MRI Coronal section showing central abscess with multiple