UNUSUAL COMPLICATION IN A DIFFICULT TO DIAGNOSE CASE OF CNS TUBERCULOSIS

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Case History:

13 month old boy admitted with h/o Fever and cough for 15 days and convulsions and left sided weakness for 3 days. Normal history and development till present illness which was of insidious onset, fever became high later. Cough dry, spasmodic, gradually worsening in severity and intensity, almost whoopy.

On Examination:

Weight: 8.5 Kg, Length: 79 cm, Head: 44 cm. Afebrile, HR 140/m, RR 45/m BP 114/68. Pallor+, no rash, icterus, clubbing or lymph node enlargement. RS: Bilateral wheeze and some creps +. Mild hepatosplenomegaly. CNS: GCS 9/15, Pupils CCERL, Cr. N. – Normal. Left side: Mild hemiparesis, hypotonia, hyper-reflexia, plantar extensor. Bilateral fine tremors.

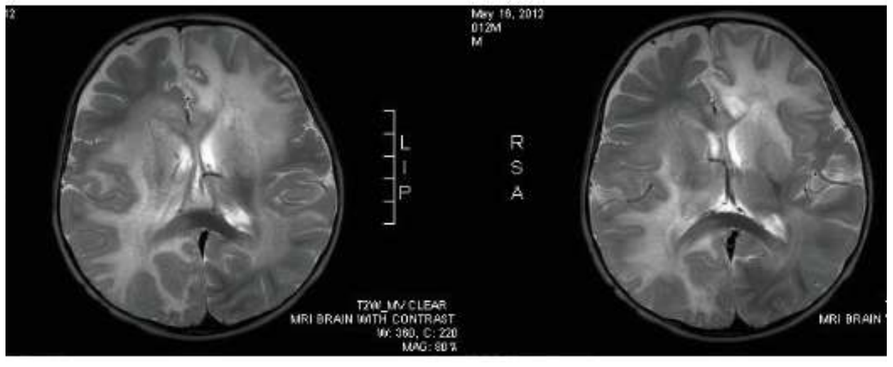
Investigations:

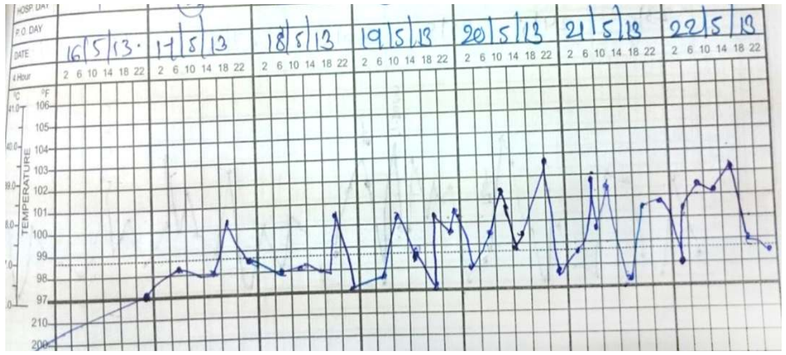
Normal biochemistry except mildly elevated AST and ALT 68 & 70 U/L. Blood counts are as shown in the table.

Date	11/5	16/5	21/5	24/5	29/5
Hb (gm/dl)	7.8	7.3	6.8	10.2	8.9
Total WBC/µL	48,200	68,800	76,500	50,750	15,900
Polys %	36	50	38	45	49
Platelets/µL	394,000	533,000	399,000	545,000	506,000

CRP – negative. X-ray chest: bilateral infiltrates, no hilar or mediastinal lymphadenopathy. CSF: Proteins 81 mg/dl, Glucose 94 mg/dl, WBC 114 cells/ cu. mm. P 45%, L 55%. No organisms seen. PCR for M tb negative. Gastric lavage for M. tb – negative. Blood and urine cultures – no growth. Mantoux test – negative. Anti-Mycoplasma IgM – negative. Serum iron: 8 mg%, TIBC 241 mg%, TS 3.3%. Ferritin: 81.2 mg%

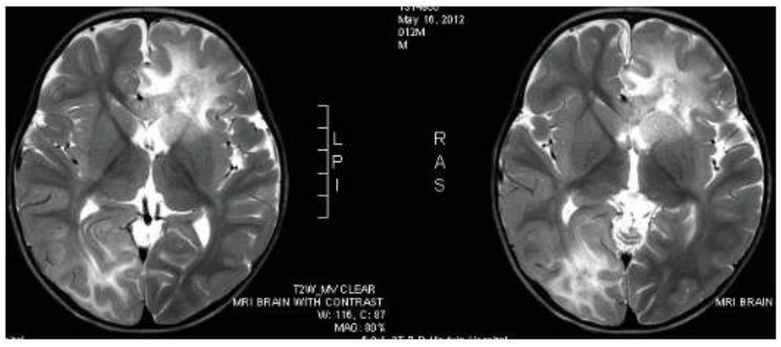
MRI brain – T2 weighted images:



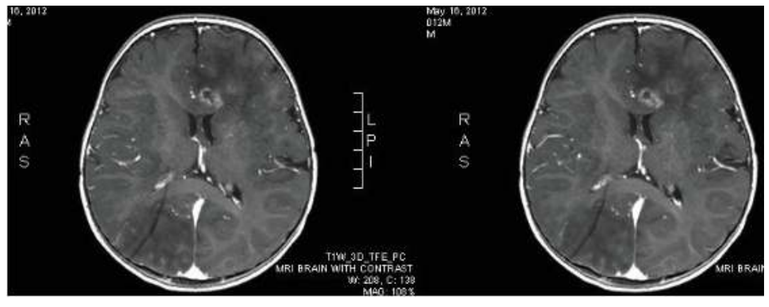


4 drug AKT – HRZE along with steroids started empirically on 22/5. Sensorium improved, recognizing mother, able to feed orally, hemiparesis unaltered. Cough subsided gradually, chest cleared, confirmed on X-ray chest. But continued to run high fever. Repeat cultures (blood, urine) no growth.

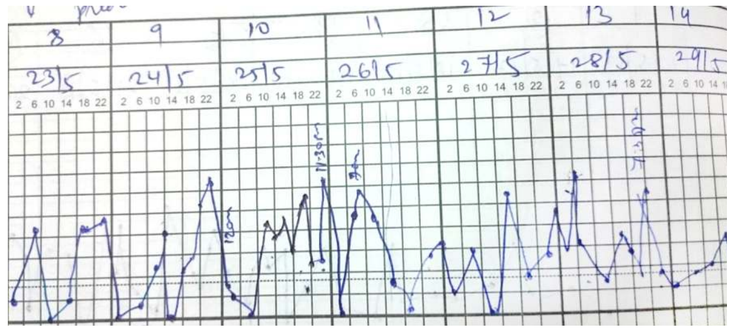
Then threw a series of convulsions with worsening of sensorium and regression. Fresh set of investigations done.. Repeat CSF: Proteins 86 mg%, Glu 88 mg% WBC 680 (P63,L15,M22). No AFB seen, culture no growth. TB PCR –ve, HSV PCR –ve. Cryptococcus antigen –ve. Viral studies (PCR panel) – ve. IgG 5.8 (N); Lactate – 11 mg% (normal). HIV Elisa – negative. BAL – negative for AFB (WBC 600 N-11%)
MRI repeated: Mild improvement in lesions.



But granuloma like lesions now seen:



And high fever continued with poor neurological improvement.



Stereotactic brain biopsy done on 31/5. White matter showed increased cellularity. Scattered reactive glial cells, large number of CD68 +ve histiocytes, no caseation, no granulomas. No organisms seen. Z-N stain – negative for AFB. Conclusion: Florid inflammatory pathology, suggestive of Haemophagocytic Lymphohistiocytosis (HLH)!

No evidence of HLH elsewhere. No cytopenia, hypofibrinogenemia – 166 mg%, hypertriglyceridemia – 140 mg%. Bone marrow aspiration: no evidence of haemophagocytosis. Perforin level – 94% (Normal). But AKT omitted and started on HLH protocol with pulse methylprednisolone and Etoposide/Cyclosporin.

Only mild clinical improvement seen. on 16/6, brain biopsy AFB culture report growing M. tuberculosis! AKT re-started. Patient gradually improved and discharged. 6 months later, had improved enough to walk unaided and started babbling. Later developed secondary epilepsy, difficult to control and ended up retarded.
Final Diagnosis: CNS tuberculosis with localized Haemophagocytic Lymphohistiocytosis.

Take Home Messages:

- TBM is still a common and dangerous disease with myriad forms of presentation; so we MUST think of it
- Difficult to make a diagnosis, so attempt bacteriological diagnosis always! That is the only foolproof diagnosis.
- TB can induce HLH (confined to local area)
- "Cure" from severe forms of TBM can still leave a devastated child and family, so early diagnosis and prompt treatment is vital.

Acknowledge the assistance of Dr Vrajesh Udani (Pediatric Neurologist), Dr Camilla Rodrigues (Microbiologist) & Dr Milind Sankhe (Neurosurgeon)