

# Nausea & vomiting in tuberculosis patient - a hide & seek game

Dr. SEETHA. T  
Post graduate (MD Paediatrics)  
Institute of social paediatrics  
Stanley Medical College

## Presentation:

- 3 year old male child diagnosed as TB cervical lymphadenitis & TB abdomen , started on CAT-1 ATT 20 days back was referred from Salem for evaluation of persistent vomiting for 15 days
- CAT 1 ATT was stopped temporarily
- Apparently normal before 1 month
- Loss of appetite & weight - 1 month
- Referred to our institute to R/O sub acute intestinal obstruction,

- Mother had extrapulmonary tuberculosis in the antenatal period , completed treatment 2 months after delivery and declared cured
- Natal history : low birth weight 1.75 kg otherwise normal . Not started on INH prophylaxis
- No history of similiar illness in the siblings
- BCG scar not seen . Partially immunised

# Examination:

- Lethargic
- Afebrile
- Dehydrated
- Drooling of saliva +
- Oral thrush +
- B/L ear discharge +
  
- Multiple enlarged non-tender matted cervical lymph nodes of size 2 × 1.5 cm

- **CVS & RS:** no abnormality detected
- **Abdomen :** scaphoid, no tenderness, no organomegaly

# CNS :

Lethargic

- GCS 15
- Cranial nerves : Normal
- Sensory system : No abnormality detected

Motor system :

- Muscle bulk & Tone
- Power 4/5 in all limbs

Fundus : normal

# Examination:

## ANTHROPOMETRY:

|                    | Observed | Expected |  |
|--------------------|----------|----------|--|
| Height             | 87 cm    | 95 cm    | < 3 <sup>rd</sup> percentile             |
| Weight             | 9 Kg     | 14 Kg    | < 3 <sup>rd</sup> percentile             |
| MAC                | 10 cm    |          |  |
| Head circumference | 51 cm    | 53 cm    | Between 50 – 85 <sup>th</sup> percentile |

# Investigations:

- Complete blood count - Anaemia
- Renal function & serum electrolytes : Normal
- Liver function tests : Normal
- Chest x ray: normal study
- X ray abdomen: dilated bowel loops



# Investigations:

- Mantoux positive (10 mm)
- CRP positive
- Retroviral screening negative
- **RGJ:** positivity for gene expert with sensitivity to Rifampicin

# Investigations:

## Ultrasonography abdomen:

- Diffuse thickening of omentum
- Multiple confluent enlarged mesenteric and para-aortic lymph nodes
- Thickened caecal wall
- Dilated ileum
- Narrowing at ileo caecal junction

# Investigations:

- Blood culture: No growth
- Urine culture: Klebsiella grown  $10^4$  sensitive to Amikacin , Norfloxacin and Ciprofloxacin
- Ear pus discharge culture showed pseudomonas growth

Initial diagnosis of TB abdomen with TB cervical adenitis and severe acute malnutrition was made

# Management:

- Restarted on CAT-1 ATT
- Started on Formula 75 feeds + multivitamin supplementation .
- SAM management according to WHO guidelines .

# Response

- Child continued to have drooling of saliva
- Difficulty in swallowing
- Persistent weight loss despite nutritional supplementation

# Possibilities considered

- Local pharyngeal or esophageal involvement
- Partial intestinal obstruction
- Not responding to ATT
- Apathy – part of SAM
- Poor weight gain – malabsorption

## **Clinical Course :**

- ENT examination: Normal
- OGD scopy: Lax LES with distal oesophagitis
- Barium meal swallow: normal



## Clinical Course :

- Alternate regimen changed to daily regimen
- Rifampicin was doubled after liver function tests in consultation with NIRT
- No response

## Investigations:

- Since he continued to be lethargic we did lumbar puncture and CSF analysis

|            |  |
|------------|--|
| Cell count | 7 cells/ mm <sup>3</sup> 100 % lymphocytes                               |
| Protein    | 71 mg /dl ( <i>Elevated</i> )  |
| Sugar      | 44 mg /dl ( <i>Decreased</i> )<br>Concurrent random blood sugar 163 mg % |
| AFB stain  | Negative   |
| Gram stain | No pus cells or organisms  |
| culture    | No growth after 48 hours   |

# Investigations:

MRI brain:

- Basal meningeal enhancement
- Non-obstructive hydrocephalus



- Neurosurgery opinion obtained
- ENDOSCOPIC THIRD VENTRICULOSTOMY was performed

# Clinical course:

## Following surgery

- Vomiting subsided over 3 days
  - general condition improved in a few days
  - Tolerated oral feeds well
  - weight gain
- 
- Discharged on daily ATT for 1 year
  - Repeat neuroimaging after 4 weeks

# Final diagnosis

- TB abdomen ,TB cervical adenitis  
TB meningitis with  
communicating hydrocephalus-  
Disseminated tuberculosis

## Why this presentation for discussion ??

- Atypical presentation of TB meningitis with vomiting and difficulty in swallowing as sole manifestations
- Dysphagia in our patient was unexplained

Dysphagia was observed in all stages of TBM, but occurred more frequently in stage II and III which are associated with neurological impairment. The nature of the difficulties noted were similar to those seen in children with neurological impairments

- Allies, C., Jensen, A., Khamissa, L., Mahura, O., Makanza, W., & Smith, L. (2009). Dysphagia in children recovering from tuberculosis meningitis. *South Africa*: University of Cape Town.



# Discussion:

## NEURO TUBERCULOSIS:

- Incidence: 1-4%
- Common in < 5 yrs of age
- One of the important site of extrapulmonary tuberculosis
- Tubercular meningitis - most common type of CNS tuberculosis in children in India

# Neuro Tuberculosis:

PROGNOSIS DEPENDS UPON CLINICAL STAGE AT THE TIME OF TREATMENT

**Table 3: Modified Vellore grading of tuberculous meningitis and hydrocephalus**

| Grade |   |
|-------|---|
| I     | GCS 15<br>Headache, vomiting, fever ± neck stiffness<br>No neurological deficit |
| II    | GCS 15<br>Neurological deficit present  |
| III   | GCS 9-14<br>Neurological deficit may or may not be present                      |
| IV    | GCS 3-8<br>Neurological deficit may or may not be present                       |

From Mathew et al. GCS - Glasgow coma score

# Neuro Imaging- MRI:

- Common findings in children
- Hydrocephalus – 80%
- Basal meningeal enhancement – 75%

# ETV in TB hydrocephalus:

- Overall success rate of 58 – 73 %
- Should be considered as first surgical option
- Good prognosis of ETV
  - good nutritional status
  - thin identifiable floor of third ventricle
  - no cisternal exudates
  - Pre operative ATT treatment

Chugh A, Husain M, Gupta RK, et al.. J Neurosurg Pediatr. 2009;3:371-7.  
Rajsekhar , et al j neurology india 2009 ; 7 ; 57 -4

- Absence of complications like shunt infection, blockage, extrusion, abdominal pseudocysts, skin erosion over shunt components makes it a procedure of choice in TBM hydrocephalus over VP shunt .

## **Take home message:**

- Although there may be one cause for vomiting in a tuberculosis patient, we have to seek and search the other possible hidden causes .
- ETV is now considered as first procedure of choice in patients with hydrocephalus secondary to TB meningitis with good outcomes.

# References:

- *IAP textbook of paediatrics 5 th edn*
- *Nelson textbook of Paediatrics – 20h Edition*
- *Essentials of childhood tuberculosis by vimlesh seth and kabra*
- *Chugh A, Husain M, Gupta RK, et al. Surgical outcome of tuberculous meningitis and hydrocephalus treated by endoscopic third ventriculostomy: outcome of prognostic factors and postoperative neuroimaging for functional assessment of ventriculostomy. J Neurosurg Pediatr. 2009;3:371-7.*
- *RajshekhharV. Management of hydrocephalus in patients with t uberculous meningitis. Neurol India. 2009;57:368-74.*

## Acknowledgement:

- Dr. Ekambaranath, Asst. Professor and  
Prof. Dr. Shanthi, Professor of paediatrics  
Prof .Dr.Devimeenakshi Professor of paediatrics  
Institute of social paediatrics, Stanley medical college
- Dept of Neurosurgery, Stanley medical college



THANK YOU .....