A RARE PRESENTATION OF SCRUB TYPHUS

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CASE PRESENTATION

- 3 years male child
- Fever for five days- high grade, continuous
- Soft hepatomegaly
- No other focus
- Child was started on ceftriaxone

INVESTIGATIONS

INVESTIGATIONS	RESULTS
Hemoglobin	10.8g%
Total count	9800
Differential count	P70L30
Platelets	1.0 lakhs
Blood sugar	122 mg/dl
Blood urea	28 mg/dl
Serum creatinine	0.3 mg/dl
Serum sodium	137 meq/L
Serum potassium	3.9 meq/L

INVESTIGATIONS(CONTD)

INVESTIGATIONS	RESULTS
Peripheral smear for MP	Negative
Peripheral smear study	Microcytic hypochromic anemia
Bilirubin	<1 mg/dl
SGOT	45 IU/L
SGPT	50 IU/L
Proteins	7 g/dl
Albumin	4g/dl
Globulin	3g/dl
Chest X Ray	WNL
Mantoux	Negative

DAY 3 OF ADMISSION

- Persistent high grade fever
- Soft hepatosplenomegaly

DAY 4 OF ADMISSION

- One episode of malena
- CBC -Platelets 40,000
- In view of persistent fever with thrombocytopenia and bleeding- diagnosis of Dengue was entertained
- Dengue serology and other investigations were also sent

INVESTIGATIONS(Rpt)

INVESTIGATIONS	RESULTS
Hemoglobin	8.9 g%
Total count	8800
Differential count	P67 L32 E1
Platelets	40,000
Serum bilirubin	0.6 mg/dl
SGOT	126 IU/L
SGPT	53 IU/L
ALP	163 IU/L
Serum albumin	3.8 g/dl
Serum globulin	3.2 g/dl

INVESTIGATIONS COMPARISION

INVESTIGATIONS	DAY 1	DAY 4
Hemoglobin	10.8g%	8.9 g%
Total count	9800	8800
Differential count	P70L30	P67 L32 E1
Platelets	1.0 lakhs	40,000
Bilirubin	<1 mg/dl	0.6 mg/dl
SGOT	45 IU/L	126 IU/L
SGPT	50 IU/L	53 IU/L
Proteins	7 g/dl	7g/dl
Albumin	4g/dl	3.8 g/dl
Globulin	3g/dl	3.2 g/dl

INVESTIGATIONS

INVESTIGATIONS	RESULTS
Blood Widal	Negative
MSAT	Negative
IgM dengue	Negative
USG abdomen	Minimal free fluid Hepato splenomegaly
Urine culture	Sterile
QBC	Negative

DAY 5 OF ADMISSION

- Persistent fever
- Vitals stable
- No shock
- One more episode of malena
- No other bleeding manifestations
- Continued on ceftriaxone

DAY 6 OF ADMISSION

- Persistent high grade fever
- Increasing pallor
- Developed respiratory distress and shifted to PICU
- Started on Azithromycin to cover atypical organisms.
- Empirical artesunate started

DAY 6 OF ADMISSION

- Second line investigations sent including scrub typhus serology

DAY 7 OF ADMISSION

- Worsening respiratory distress
- Persistent high grade fever
- Intubated and ventilated

INVESTIGATIONS(Rpt)

INVESTIGATIONS	RESULTS
Hemoglobin	6.2 g/dl
Total count	11,800
Differential count	P50 L43 E7
Platelets	14,000
Blood culture	No growth
Scrub typhus IgM	Positive

INVESTIGATIONS

INVESTIGATIONS	RESULTS
Serum bilirubin	2.0 mg/dl
SGOT	450 U/ml
SGPT	365 U/ml
ALP	320 U/ml

- In view of bicytopenia & persistent fever with hepatosplenomegaly we proceeded with further investigations

INVESTIGATIONS

INVESTIGATIONS	RESULTS
Serum triglycerides	443 mg/dl
Serum LDH	962 ng/ml
Serum ferritin	4048.90 ng/ml
Serum fibrinogen	<50.00 mg/dl
Absolute Neutrophil count	5480/cu.mm
Interleukin 2R	4741 U/ml

DIAGNOSIS

- Scrub Typhus with secondary HLH

- Fever,Hepatosplenomegaly
- Scrub IgM positive
- Cytopenia involving 2 cell lines
- Hypertriglyceridemia
- Hyperferritenemia
- Hypofibrinogenemia
- Elevated Interleukin -2R

COURSE IN THE HOSPITAL

- In view of scrub typhus positivity, started on Doxycycline through nasogastric tube
- Fever decreased from day 2 of Doxycycline and abated on day 4 of Doxycycline
- Respiratory distress settled from day 2 of Doxycycline
- Child weaned from the ventilator

Condition at discharge

- Moderate pallor
- Platelet counts increased to 1,40,000
- Hemoglobin 8 g/dl
- Discharged on day 20 of hospitalisation after his general condition improved

INVESTIGATIONS ON FOLLOW UP (1 wk after discharge)

INVESTIGATIONS	RESULTS
Hemoglobin	10.8 g/dl
Total count	12,000
Differential count	P60 L40
Platelets	2,70,000
PCV	32%
Serum Triglycerides	148 mg/dl
Serum Ferritin	52.70 ng/ml
Serum Fibrinogen	304.00 mg/dl

DISCUSSION

HLH

Type 2 of Histiocytosis

-Familial Erythrophagocytic Lymphohistiocytosis

-Infection associated Haemophagocytic Syndrome(Bacterial, Viral, Fungal, Mycobacterial, Rickettsial, Parasitic)

DIAGNOSTIC GUIDELINES FOR HLH

The diagnosis of HLH is established by fulfilling 1 or 2 of the following criteria:

1. A molecular diagnosis consistent with HLH (e.g., PRF mutations, SAP mutations)

(or)

DIAGNOSTIC GUIDELINES FOR HLH

2. Having 5 out of 8 of the following:

a. Fever

b. Splenomegaly

c. Cytopenia (affecting =2 cell lineages)
- Hemoglobin =9 g/dL
  or =10 g/dL for infants <4 wk of age
- Platelets <100,000/µL
- Neutrophils <1,000/µL)

DIAGNOSTIC GUIDELINES FOR HLH

d. Hypertriglyceridemia (=265 mg/dL)

and/or

Hypofibrinogenemia (=150 mg/dL)

e. Hemophagocytosis in the bone marrow, spleen, or lymph nodes without evidence of malignancy

f. Low or absent NK cell cytotoxicity

DIAGNOSTIC GUIDELINES FOR HLH

g. Hyperferritinemia (=500 ng/mL)

h. Elevated soluble CD25 (IL-2Ra chain; =2,400 U/mL)

CONCLUSION

- This case is presented in this meet because Hemophagocytic Lymphohistiocytosis secondary to Scrub Typhus is a rare entity and is available in literature as case reports
- Scrub Typhus is becoming a common entity
- Eschar is not always present(7-68%)

CONCLUSION

- Though steroids and immuno suppressants were given for the treatment of HLH, treatment of the cause is important in cases of secondary HLH
- Early diagnosis and treatment of the cause along with supportive care leads to a good prognosis in cases of secondary HLH

THANK YOU