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Case Series on Scrub Encephopathy from a Tertiary Care Hospital of South Odisha

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Abstract: ***Scrub Typhus is an acute febrile illness caused by Orientia tsutsugamushi (Rickettsia).It is endemic in Southeast Asia (SEA).It is transmitted by the bite of larval trombiculid mite to human and causes localized pathological skin reaction at bite site known as eschar. We report the clinical manifestations and outcomes of patients diagnosed with scrub typhus in our hospital. All of them admitted with fever along with other symptoms like loose stools, vomiting, cough, convulsion, altered sensorium, myalgia, prostration was present. We got eschar in 2 patients. IgM Scrub was present in all cases and there was dramatic response to Azithromycin / Doxycycline.***

Keywords: Scrub Typhus, fever, eschar, Doxycycline, Azithromycin

1. Case Series

Case 1: A 12yrs female admitted for high grade fever for 10 days and vomiting and cough for 7days.After hospitalization devloped prostration followed by one episode of GTCS convulsion lasted for 1hr followed by altered sensorium. O/E-stable vitals,mild pallor, cervical lymphadenopathy, Tachycardia, irregular respiration with vesicular breath sound bilaterally, hepatomegaly with span being 12cm,spleen 2cm palpable, GCS 7/15,intermittent tonic posturing, no meningeal signs, middilated pupil. On exposing the child a eschar was found over Right Axilla. Antigen testing of malarial parasite negative. Typhidot negative, IgM Scrub Positive i.e, 2OD(normal ≤0.5OD).Patient was with ventilatory support for 5 days with injectable ceftriaxone and Azithromycin. Gradually weaned from ventilator and extubated and discharged successfully with completion of 10days of Azithromycin.

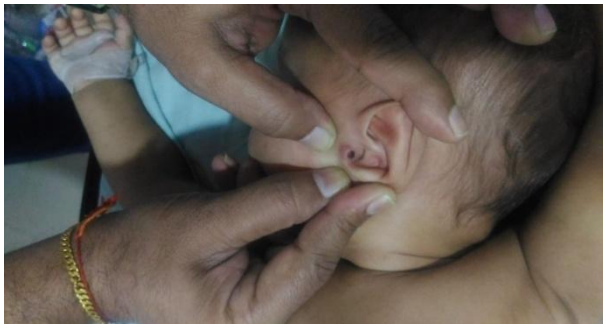
Case 2: A 10yrs male admitted with fever for 7days witn loose stool and vomiting for 3 days.O/E- some pallor, edema, cyanosis, Tachycardia, Tachypnoea, 4cm hepatomegaly, just palpable spleen,S3 gallop,distant heart sounds,conscious and oriented. No eschar was found. Next day sensorium decreased, CCF persisted, developed meningeal signs, Fundoscopy revealed macular edema. Started with Injectable Dobutamine, ceftriaxone and Azithromycin. Lumbar Puncture came to be normal. IgM Scrub Positive. After 3days patient started improving and discharged with a total 10 days course of Azithromycin.

Case 3: A 10 yrs female presented with fever for 15days,prostration for 7days,pain in limbs for 3days,decreased urination for 1day with stable vitals, mild pallor, periorbital and pedal edema. Keeping Scrub Typhus in mind, Eschar was searched but not found. On palpation 4cm hepatomegaly and just palpable spleen and neck stiffness ++.All routine test including dengue and RFT normal.CSF cell count 47 with 20% monomorph and 80% polymorph, protein 160mg/dl, sugar 46mg/dl and Scrub IgM was positive. Patient was treated with ceftriaxone and Doxycycline for 7days and discharged.

Case 4: A 9yrs female child came with fever for 3days,pain abdomen for 1day,multiple episodes of vomiting for 1day,altered sensorium for 1day.O/E-vital stable with cervical lymphadenopathy,2cm hepatomegaly,just palpable splenomegaly, chest and cvs normal, no meningeal sign. CBC, MP(ICT), RFT, LFT, Electrolytes normal,Scrub IgM Positive i.e, 3.1OD (Ref≤0.5 OD),CSF cell 6mononuclear,protein 102mg/dl,sugar 90mg/dl.Patient improved with Injectable Ceftriaxone,Azithromycin and steroid and discharged.

Case 5: A 1yr male child presented with Fever for 15days,cough for 5days and rash for 4days with 1 episodes of convulsion. There was no history of hospitalization, achieved all mile stone as per age.O/E – mild pallor, stable vitals 5cm palpable Liver and 3cm palpable Spleen. There was one Eschar in the inner side tragus of left ear.CBC, RFT Electrolytes normal.MP(ICT) negative, CSF cell count 480(10% mononuclear,90% polymorph),Protein 320mg/dl, Sugar 46mg/dl, Scrub Typhus IgM Positive i.e, 2.4OD(≤0.5 OD is normal).Patient was improved with Ceftriaxone,Vancomycin, Azithromycin for 10days and steroid for 2days.

Picture 1: Showing IgM scrub report of case 4



Picture 2: Showing Eschar of case 5 present inside tragus

2. Discussion

Scrub typhus is an acute febrile illness caused by the obligatory intracellular gram negative bacteria Orientia tsutsugamushi.Humans are the accidental hosts and the disease is transmitted through the skin by the bite of larval stage of infected trombiculid mites or chiggers(1). As these mites can be found in many different types of vegetation (e.g.,forests,rice paddies or plantation),farmers and people who engage in outdoor activities have a higher risk of scrub typhus(2-4).

The disease presents as an acute febrile illness with non-specific signs and symptoms(5). A necrotic eschar at the inoculating site of the mite is pathognomonic of Scrub Typhus(6).However it is present in 7-68% cases. Lymphadenopathy is a common finding in scrub typhus(7). The disease usually runs a benign course but complications are not uncommon and include myocarditis, pneumonia, meningoencephalitis, gastrointestional bleeding, acute renal failure and respiratory distress.

Rickettsial disease should be considered in the differential diagnosis of every patient with aspectic meningitis or meningoencephalitis or acute encephalitic syndrome (AES).

Serological tests still remains the main stay for the diagnosis of scrub typhus.Weil Felix test is easily available and highly specific but lacks sensitivity.Indirect ImmunoFluorescence assay(IFA) is highly sensitive and considered 'gold standard' but its use is limited by the cost and availability.Microimmunoflorescence, immunoperoxidase assay,latex agglutination, indirect hemagglutination, enzyme linked immunosorbent assay, dot blot immunoassay(including dipstick test) are various other serological tests available(7). Polymerase Chain Reaction can detect acute infection with Orientia tsutsugamushi(8). A rapid immunochromatography assay which uses recombinant major outer membrane protein antigen of orientia tsutsugamushi to detect IgM,IgG and IgA antibodies has been shown to be reliable and suitable for use in developing countries.

Doxycycline remains the antibiotic of choice for treatment of scrub typhus. Chloramphenicol,Azithromycin and Rifampicin are other antibiotics useful for the treatment. All of our cases responded well with Azithromycin and Doxycycline.

3. Conclusion

This study indicates a high incidence of Scrub typhus; it should be thought in every patients with acute febrile illness where fever is not explained by ASOM,ARI,UTI or Enteric fever. There should be high index of suspicion and eschar should be searched in everycase of febrile illness presenting either as FWF(Fever without focus) or FUO(Fever of Unknown Origin). Amongest all AES cases Scrub Encephalopathy has to be kept as a close Differential Diagnosis. If diagnosed early, Effective treatment will lead to Favourable Outcome.

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