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Rickettsial Fever and Anemia in Pediatric Patient

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ABSTRACT

Introduction: We had a case report of Rickettsial infection and its management.

Presentation of case: Recently one case diagnosed with rickettsial fever was treated with paediatric protocol towards control of spread of the community disease and the patient got discharged at 9th day of admission with full recovery. The child came with high grade fever for last 10 days and eschar lesions on chest for 4 days. With proper history and physical assessment the child was diagnosed as rickettisal fever. Initially the child was treated with Paracetamol and then Doxcylcine was started. The child had good recovery from this infection.

Discussion: Rickettsial fever generally develops with high grade fever, rashes and enlargement of organs due to immature immune system in pediatric cases and if not treated it may lead to other organ dysfunction also. Further investigations is needed to rule out and control this diseases in the initial stage.

Conclusion: Further research related to diagnostic methods and treatment modalities to reduce and incidence. There is need to create prophylactic protocol for control and treatment of this disease.

KEYWORDS *Rickettsial Fever, Pediatric*

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INTRODUCTION

Rickettsial disease is a broad spectrum of infection caused by bacteria and virus, but most of the infections are caused by rickettsia rickettsii[1&2]. This type of infection ~~is~~ spreads throughout the world mainly in travelers from the topical countries including our country[3]. Rickettsial primary infections are initially caused by bites of birds and mites which is common in every country. Rickettsial fever is also a febrile like Malaria, Q-fever and Scrup Typus condition that cannot be easily diagnosed without the proper laboratory values and findings[4].

Proper treatment can only improve the condition of person in order to reduce the mortality / morbidity rate among the person who has been affected with these diseases. Rickettsial infection is common mainly in pediatric age group due to low immunity and it is proved that symptomatic management can improve the condition of the child by Increasing production of antibodies towards this disease [5].

A statistical and epidemiological survey shows the reported cases worldwide as follows[6]:

Table 1 Statistical and epidemiological survey

S.No	Year	New cases
1.	2016	4,269
2.	2017	6,248
3.	2018	5,544
4.	2019	5,207

CASE PRESENTATION

A 5 year old female child was admitted in pediatric unit in selected hospital, Puducherry. A child came with the chief complaints of fever for 10 days. It was acute on onset and there was intermittent rise in temperature during the night time. Initially the child received treatment from General physician at nearby PHC and the child was put on antibiotics for 6 days. Even then, it was found that the complaints were still increasing like rise in temperature, continued loose stool since 2 days, and black swelling over chest since 4 days. On physical examination, it was found there was eschar over the chest for about 1 cm * in size and hardness felt over the liver and spleen. The investigation results revealed that the hemoglobin was 7.9gm, blood urea - 25 mg/dl, sodium -138meq/l, potassium - 4.0 mEq/l, chloride - (107 mEq/l, WIDAL report was negative, urine albumin and urine sugar were nil. Then these tests were repeated after 5 days of admission which shows that hemoglobin as 10.5 gms%, total count as 7,400 cells/Cumm, Neutrophils as

43%, Eosinophils as 0.2%, lymphocyte as 55%, RBC as 3.65 Millons/ Cumm, PCV as 31.0%, MCV as 84.9%, MCHC as 33.9% and MPV as 5.9%.

Management and follow-up

The child was initially treated with T.Paracetamol 250 mg SOS, Cap.Doxycycline 100 mg ¾ OD, T.Rantidine 75 mg BD then the dose was increased to T.Paracetamol 350 mg tds, Cap.Doxycycline 100 mg ½ OD, T.Rantidine 150 mg ½ BD with IV fluids ½ DNS 30 ml per hour. The child got discharged on the 9th day of admission and it is advised to have follow up every 2 weeks. The child was also advised to continue the medicines like T.Paracetamol 250 mg SOS, Cap.Doxycycline 50 mg OD * 5 days and T.Rantidine 75 mg OD for another 5 days after discharge. The child was also instructed to take more oral fluids and advised to avoid playing outdoors.

DISCUSSION

In this condition, the common signs and symptoms which are expected to be present in all Rickettsia fever condition like high fever, loss of appetite, rashes, headache, myalgia, cough, nausea and eschar were also found in this child too. Eschar lesions can be found in single part of body or it may be scattered all over the body surface area. But, for this child, it was found only in the chest. Here child was also present with enlargement of liver, spleen and even blood disorders. Later the child developed cardiac and respiratory problems with neurological dysfunction and theses all were controlled by prompt treatment after which follow –up care was advised in order monitor further complication for the child in future. The same clinical features were found in some other pediatric cases along with additional symptoms like gangrene formation which was found by the scientific study[7&8]. In this case series all the four child developed high grade fever, rashes and organomegaly expect the first child developed bleeding disorders and gangrene over fingers, toes and behind the ear lobe. The child was treated with doxycycline which produced a good outcome and quick recovery among these children. It was also found that it could even cause death if child has co morbidities.

CONCLUSION

From this case presentation, the authors would like to conclude that immediate management and proper follow up can improve the condition. And author also would like to insist on Preventive measures like avoiding travel to reduce the incidence, keeping the environment clean and proper

washing of clothes; which can destroy the mite which is considered as a carrier of rickettsial diseases.

Conflict of interest:

The authors declare that they have no conflict of interest related to the publication of this article

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