

# Encephalitis Due to Rubella: A Case Report

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## ABSTRACT

Clinical Rubella is not commonly met with in India especially in this vaccine era. Severe rubella with the involvement of CNS and spontaneous remission in a 14-year-old girl was an unusual presentation in a tertiary care private hospital in Tirunelveli, southern part of India. This is a case report of an encephalitis due to rubella in an adolescent girl, which is reported to alert the physicians to think of this possibility when they are coming across any encephalitis like picture with fever and exanthem rashes and also when come across any exanthem fever. This case report is sent for publication after getting the consent from her care taker and guardian.

**Keywords:** Rubella, Exanthem, Encephalitis.

## INTRODUCTION

Rubella episodes after the advent of massive and regular immunization program are rare. It might occur and go unrecognized because of the mild course of the infection, possibly due to immunization. Rubella episodes in a woman during antenatal period can result in severe congenital anomalies. Encephalitis can be caused by any virus which can cause exanthem and fever, and it may be even tough in rare instances. Here is a case of Encephalitis possibly due to Rubella is reported to alert the physicians to think of the possibility of Rubella when they come across a case of encephalitis.

## BACKGROUND

Immunization schedules were followed in India almost nearing 100%. In spite of all efforts, children among rural areas and tribal areas may be likely to miss some doses. Recently I came across a parent, who brought his 11-year-old child for some other dermatological problem, revealed that as his child developed some adverse reactions following a vaccination at the age of 18 months, he never vaccinated his child afterwards. Sometimes such things can happen. It has been observed that around 40-45% of women in the childbearing age are susceptible to Rubella. Moreover, it is surprising to know that over 2 lakh babies are born with birth defects because of Rubella infection during pregnancy in the Indian sub-continent [1]. But manifested Rubella that also with encephalitis is worth to be mentioned.

## CASE REPORT

14 years old girl admitted in IMCU with the history of sore throat, head

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ache, giddiness and fever for 5 days in a disoriented and semiconscious state in a private tertiary care center at southern part of India. The girl had severe necrotic chelitis and stomatitis and few grouped tiny vesicular lesions right angle of the mouth. She was also having grouped tiny ulcers over the palate and buccal mucosa and pink maculopapular rashes over face, neck and chest and upper extremities. Her lips were edematous and swollen. Pediatric physician who attended on her suspected meningococcal meningitis and started her on Injection Ceftriaxone 1 gm IV twice daily, Injection dexamethasone 8 mg IV twice daily and Injection Acyclovir twice daily. Mouth lesions were thought to be due to Herpes Simplex 1 infection. The skin rashes were like that of Exanthem. Her C- reactive protein was 16.82. Her tests

for HIV, HBV, HCV were negative. Her CSF examination were negative for meningo encephalitic panel and biochemical tests on CSF also within normal limits. Her ESR was 12 mm in half an hour and 25 mm in one hour and complete hemogram appeared normal. As per my suggestion, she was tested for TORCH panel. It revealed negative for Toxoplasma and Cytomegalovirus whereas HSV 1 and 2 IgG raised and Ig M and Ig G for Rubella were raised very well. The patient recovered within 2 days from her central nervous system symptoms and the rashes almost vanished within 5 days (Figure 1, 2&3). 5th day she was shifted to the ward away from IMCU and the 6th day she got discharged (Figure 4, 5&6).



**Figure 1.** Maculopapular rashes on 5th day.



**Figure 2.** Healing Chelitis on the 5th day.



**Figure 3.** Edematous lip on the 5th day.



**Figure 4.** Healing rashes on 12th day.



**Figure 5.** Healed chelitis 12th day.



**Figure 6.** Healed facial rashes on 12th day.

## DISCUSSION

Short prodromal symptoms, not a very high febrile spells, Cephalo-caudal pink maculo papular rashes with spontaneous remission within 5 days, all were suggestive of viral exanthema [1,2]. The severe chelitis and stomatitis responded to Acyclovir suggested the oral lesions could be due to Herpes simplex viral episode with the acute viral exanthem fever [2,3]. Especially the rise in Ig M rubella antibodies in this patient was more suggestive of Rubella infection. Even though we were not able to attribute the exact cause for the CNS involvement in this case and the reason for severe exacerbation of Herpes simplex 1 infection in this patient as there was no obvious immune deficiency

in this patient. Moreover, she is an athlete and travelled widely which led her exposed herself somewhere to Rubella infection. She seemed to be vaccinated in her childhood. As far as vaccination is concerned, they may be very well effective; at the same time nobody can assure a 100% safety from any vaccination. Moreover, there would be chances for break of cold chain at any point of its travel to the destination sites. So, the possibility of rubella cannot be ignored in this case and every physician should think of the possibility of rubella also when they are handling cases of encephalitis. Moreover, the presence of a rise in IgM antibodies against Rubella in this patient also confirmed the possibility of Rubella in this case. She was reviewed once again 6 days after the discharge

and she is almost normal and back to her routine. Late onset pan encephalitis in a child with congenital rubella infection was reported by Townsend et al. [4]. Progressive rubella panencephalitis (PRP) is a neurological disorder may occur in a child with congenital rubella [5]. Acute encephalitis with atypical presentation of Rubella in Family Cluster, India was reported by Bharatwaj et al. [6].

### CONCLUSION

Encephalitis like picture in our day-to-day practice is not uncommon everywhere around the globe. Whenever a physician happened to come across such cases along with skin rashes and fever, one should not forget to think of the possibility of Rubella also in these situations and he/she has to rule out or confirm the diagnosis of Rubella with necessary investigations.

### ACKNOWLEDGEMENTS

None.

### CONFLICT OF INTEREST

The author declares that there is no conflict of interest.

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