

Neurorickettsioses : insights from a monocentric study

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INTRODUCTION & PURPOSE

- Rickettsiosis is a bacterial zoonosis caused by *Rickettsia* which may involve neurological system. Although scarce, neurorickettsiosis is a severe form which may lead to death.
- We aim to study clinical, biological and therapeutic characteristics of neurorickettsiosis. (NR)

METHODS

- Through a retrospective study, all patients with NR admitted in the Department of Infectious Diseases were enrolled.
- We reviewed clinical and biological data as well as their treatment.

RESULTS

- Among 406 patients with rickettsiosis, 46 patients (**11.3%**) had neurological manifestations.
- There were 56,5% of men and 43,5% of women.
- **Mean age** was of 33.7 ± 20 years.
- In our study, **90% of patients with NR** were living in rural areas and 91% had a contact with animals.
- There were 51,5% of cases hospitalized between June and August.
- Mean delay of consultation = 7.2 ± 5 days.
- Clinical manifestations are showed in table I.

Table I : Clinical manifestations of neurorickettsiosis

Clinical manifestations	Number (%)
Fever	46 (100)
Headache	43 (93.4)
Meningeal syndrome	28 (60.8)
Skin rash	16 (34.7)

RESULTS

- There were 40 cases (87%) of meningitis and 6 cases (13%) of meningoencephalitis.
- The main biological finding was thrombocytopenia (39%).
- **Serological tests** were performed in all patients. Diagnostic yield was 100% and it revealed predominantly *Rickettsia conorii* in 40 cases (87%) while *Rickettsia typhi* was incriminated in 6 cases (13%).
- **Doxycycline** was prescribed in 78,2% of patients and 21.7% of patients with NR were treated with fluoroquinolones.
- The mean duration of treatment was 5 to 7 days.
- Apyrexia was noted 3 day after beginning of antibiotic treatment.

Table II : Laboratory findings in neurorickettsiosis

Laboratory findings	Number (%)
Thrombocytopenia	18 (39)
Liver cytolysis	15 (32.6)
Hyponatremia	9 (19.5)
Leucopenia	4 (8.6)

CONCLUSION

- Neurorickettsiosis is a rare but severe manifestation of rickettsial diseases. It exhibits clinical challenge because of non specific signs. The pathogenesis of central nervous system involvement is due to **vasculitis** which is responsible for **microvascular leakage**, **oedema**, **microhemorrhages** and mononuclear cell **infiltration** around the vessels.
- Physicians should keep it in mind and subsequently diagnosis should be confirmed without delay and specific treatment is crucial to ensure better outcome.

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