

COULD WE PREDICT SEVERE RICKETTSIOSIS ?

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INTRODUCTION

- *Rickettsiosis* has long been considered as a benign affection.
- Pathologic mechanisms and prognosis factors of severe forms are incompletely decrypted.
- We aimed to determine the predictive factors of a severe rickettsiosis (SR).

METHODS

- **Study design** : retrospective prognostic study
- **Inclusion criteria** : Patients of any age with documented rickettsiosis
- **Study period** : 1990 - 2014
- **Definition of SR** : presence of renal, neurological, cardiac, splenic and/or pancreatic disorder.
- **Statistical analysis** : Independent prognostic factors predictive of a SR with multivariate analysis using Cox proportional hazard regression

RESULTS

- N = 336 cases of rickettsiosis ; **SR = 73 cases (21.7%)**
- Mean age of patients = 42.4 ± 16 years ; Sex ratio (Male/female) = 1.1
- **SR clinical forms** : (Figure 1) .

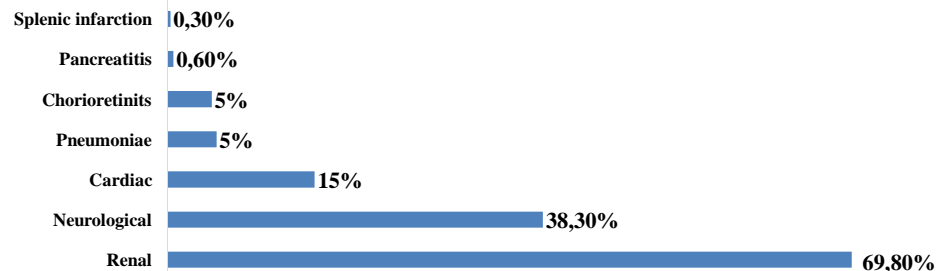


Figure 1 : Clinical forms of severe rickettsiosis

- Intensive care significantly more frequent in SR (Figure 2).

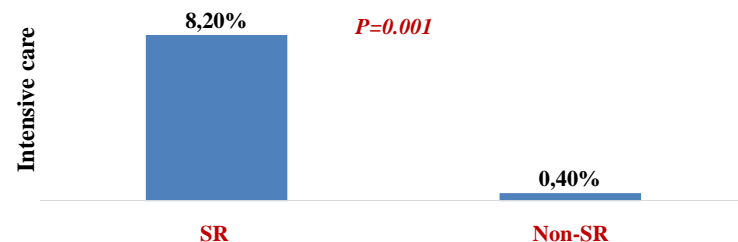


Figure 2 : Comparison of intensive care according to severity of rickettsiosis

- Sociodemographic and clinic-biological risk factors of SR are shown in table1.

Table 1: Risk factors predictive of severe rickettsiosis

Risk factor	SR	Non-SR	HR	P
Age (years)	49.2 ± 17	40.6 ± 16	-	< 0.001
Co-morbidities (%)	36.4	23	1.9	0.03
Purpura (%)	11	3	3.9	0.01
Splenomegaly (%)	9.7	3.8	2.7	0.04
Chorioretinitis (%)	9.7	3.4	3.1	0.037
Thrombocytopenia < 100 000/mm ³ (%)	44.4	27.3	2.1	0.005
Serum sodium (mmol/L)	132 ± 5	134 ± 4	-	0.002

- Doxycycline Treatment more frequent in patients with SR (51.4% vs. 66.2%; p= 0.02; HR= 0.5).
- Median free-complications survival=7 days (CI95% = 6 - 7.9 days) (Figure 2).

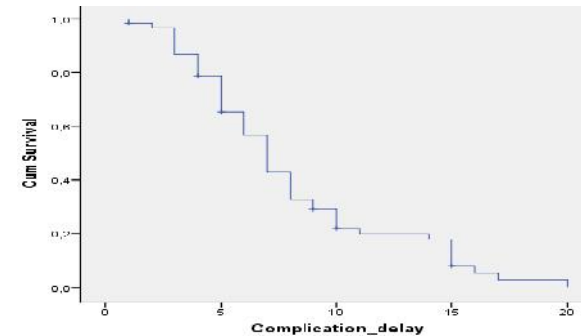


Figure 3 : Kaplan Meier Complication-free survival model in patients with rickettsiosis

- Multivariate Cox regression analysis :
 - **Advanced age** : HR= 1.02; CI95% 1.008 - 1.036; p= 0.002
 - **Thrombocytopenia < 100000/mm³** : HR=1.68; CI95% 1.01 - 2.7; p= 0.042
- => independent prognosis factors of predicting SR.

CONCLUSION

- Rickettsiosis remains an emerging infection in our country.
- Although its natural evolution is often favorable, serious outcomes deserve an intensive and early management based on adequate antimicrobial drugs.
- Future studies are needed to analyze deeply prognostic profile of rickettsial diseases.