

A case of severe anaplasmosis mistaken for severe fever with thrombocytopenia syndrome

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Introduction: Anaplasmosis is a zoonosis caused by *Anaplasma phagocytophilum* and a self-limited febrile illness with nonspecific symptoms including fever, chills, myalgia, and headache. Tick-borne disease in Korea occurs mainly from April to November, and it is often difficult to differentiate due to the similar symptom and sign. Symptoms of severe fever with thrombocytopenia syndrome (SFTS) tend to be more severe than anaplasmosis in general. Herein, we present a case of severe anaplasmosis mistaken as SFTS.

Case report: A 77-year-old woman lives in countryside often works in the field transferred to a tertiary hospital due to persistent fever and thrombocytopenia in May 31. At admission, body temperature was 38.4°C, pulse rate as 124/min, respiratory rate as 24/min, and blood pressure as 180/80mmHg. Physical examination revealed drowsy mentality and no rash. Laboratory test revealed that white blood cells 1,530/ μ L, hemoglobin 10.5g/dL, platelets (PLT) 28,000/ μ L, blood urine nitrogen 33mg/dL, creatinine 1.8mg/dL, aspartate transaminase 122unit/L, alanine transaminase 28unit/L, lactate dehydrogenase 1,686unit/L, total bilirubin (TB) 1.38mg/dL, and C-reactive protein 30.7mg/dL. Chest X-ray showed no infiltrates. Abdominal computed tomography showed chronic liver disease. No organism was identified in blood cultures. SFTS was strongly suspected but, antibody for tsutsugamushi and polymerase chain reaction (PCR) for SFTS were negative. She was treated empirically with meropenem 1gm every 8 hours and azithromycin 500mg every 24 hours. After initiation of empirical antibiotic, fever was persisted, and follow-up laboratory tests revealed that PLT 17,000/ μ L and TB 12.81mg/dL. To identify the cause, multiplex realtime PCR conducted for tick-borne disease revealed that anaplasmosis was positive. She received doxycycline 100mg twice a day. Fever, thrombocytopenia and hyperbilirubinemia improved. She was discharged and followed up at outpatient clinic.

Conclusion: We experienced a case of severe anaplasmosis with symptoms similar to SFTS. The epidemiology of anaplasmosis in Korea is not well-known. It is important to be able to differentiate each tick-borne disease properly.

Table 1. Blood test results for a patient with severe anaplasmosis

Date	05.31	06.01	06.02	06.04	06.06	06.08	06.10	06.13	06.16	06.20	06.27
WBC ($10^3/\mu$ L)	1.53	2.36	2.65	6.35	9.58	10.63	11.43	8.48	5.5	4.6	4.41
Hb (g/dL)	10.5	10.6	9.8	9.0	10.3	10.6	7.6	7.4	9.3	8.1	8.9
Platelet ($10^3/\mu$ L)	28	25	17	46	30	38	60	67	77	99	195
BUN/Cr (mg/dL)	33/1.80	38/1.98	52/2.08	58/1.37	58/1.11	73/0.90	105/1.75	67/1.19	47/0.99	41/0.97	22/0.95
AST/ALT (U/L)	122/28	144/29	147/27	164/33	78/39	79/38	50/49	55/56	72/71	58/73	48/56
Bilirubin (mg/dL)	1.38	1.57	2.31	3.39	5.00	10.58	12.81	10.44	6.91	4.31	3.32
antibiotics	azithromycin (6/2-6/7)					Doxycycline (6/8-6/20)					