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Letter to Editor

Disseminated Intravascular Coagulation in a Case of Brucellosis Misdiagnosed as Thrombotic Thrombocytopenia Purpura

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Dear Editor

Brucellosis is a multisystem disease with various clinical presentations. It is a worldwide, zoonotic disease which has still remained as an uncontrolled health problem in many underdeveloped countries.[1] Hematological manifestations of brucellosis are so variable and include anemia, leukopenia, immune thrombocytopenia, thrombotic thrombocytopenia purpura (TTP) and hemophagocytic syndrome.[2-7] Disseminated intravascular coagulation (DIC) has been reported in a few cases of brucellosis.[8-10] Herein, we present a case of brucellosis who was presented with clinical picture of DIC misdiagnosed as TTP.

A 24-year-old woman was admitted with fever, abdominal pain and headache for the last three months. She was from a rural area in east Azarbaijan of Iran and had a history of fresh dairy consumption. On physical examination she had pallor, fever, and jaundice. Laboratory tests showed anemia (Hb: 7.6g/dl), thrombocytopenia (Platelet count 30×10^9/µl), indirect hyperbilirubinema, and elevated lactate dehydrogenase (LDH). Peripheral blood smear revealed many fragmented RBCs. A diagnosis of TTP was made and urgent plasmapheresis was initiated for the patient, but the results of further tests in the next few days showed prolonged prothrombin time (PT), increased fibrin degradation products (FDP) and D-dimer along with markedly elevated anti-brucella antibodies with Wright's *and Coombs wright's* tests, thus the diagnosis of DIC secondary to brucellosis was affirmed. Treatment with doxycycline and rifampin was initiated for the patient. Three days following appropriate antimicrobial therapy thrombocytopenia and coagulopathy were resolved and she was discharged with anti-brucellosis medication.

Although TTP is characteristically defined by a pentad of thrombocytopenia, microangiopathic hemolytic anemia, fluctuating neurological signs, renal impairment and fever, it can be considered without fulfilling the whole pentad. In another word positivity for only the first 3 above mentioned items could be present in approximately 75% of the cases.[5] TTP is a thrombotic microangiopathy similar to DIC; however, in contrast to DIC, the mechanism of thrombosis in TTP is not via the coagulation pathway activation and consumptive coagulopathy. The results of the blood coagulation assays (PT, PTT, D-Dimer, FDP and fibrinogen levels) in TTP were normal in our patient.

According to the presence of fever, headache,

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microangiopathic hemolytic anemia and thrombocytopenia, diagnosis of TTP was made for our patient, but further laboratory studies indicating prolonged PT, increased FDP and D-dimer was compatible with the diagnosis of DIC secondary to brucellosis.

There are various hematological manifestations in brucellosis which include anemia, leucopoenia, thrombocytopenia, TTP, hemophagocytic syndrome and rarely DIC.[2-9] As a result, in patients with brucellosis presenting with abnormal hematological features such as DIC, diagnosis of the disease may be problematic and delayed, accordingly we should consider brucellosis in any patient with unexplained DIC in endemic areas for brucellosis.

Conflict of Interest: None declared.

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