

Case report of Rapidly fatal *Neisseria meningitidis* septicemia with purpura fulminans

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Introduction: *Neisseria meningitidis* is a part of the normal nonpathogenic flora in the nasopharynx of up to 8–25% of adult in healthy individuals, but susceptible person can suffer from fatal septicemia and meningitis. Even with antibiotic treatment, mortality rates can be up to 20%. Approximately 10 to 20% of patients with meningococcal septicemia present purpura fulminans(PF). We present a case of acute PF with septic shock due to meningococcal septicemia.

Case: A 21 years old female patient without any medical history presented to the emergency room for fever, skin rash, pain at right anterior thigh and left jaw and multiple vesicles. But vital signs were stable, and there were no abnormalities on other laboratory tests. So, the patient discharged with oral antibiotics and antiviral agents. And the next day, the patient re-visited the hospital for sustained fever, aggravated skin rash to purpura, vomiting and diarrhea. Initial blood pressure was 119/67mmHg, but decreased to 86/61mmHg after about 7 hours from the visit. Laboratory blood tests demonstrated a significant inflammatory response, coagulopathy and acute kidney injury. Fluid resuscitation and inotropics were administrated. Also, continuous renal replacement therapy was administrated. Empiric therapy for the patient consisted of a third-generation cephalosporin based on gram stain with gram-negative diplococci. One day after admission, sudden cardiac arrest occurred and there was no return of spontaneous circulation. Blood cultures were subsequently positive for *Neisseria meningitidis* serogroup 29E, confirming the diagnosis of meningococcal meningitis.

Discussion: The meningococcal disease with PF could progress rapidly and lead to death like this case. So, suspicion and starting treatment for meningococcus empirically is important when we meet the patients with PF. We have reported a case of meningococemia that was caused by the infrequently reported serogroup 29E in a previously healthy patient. As the effectiveness of vaccination for minor serogroups remains limited, it is also important to research the meningococcal vaccine against minor serogroups for preventing fatal septicemia.

