Staphylococcus schleiferi coinfection in dengue fever

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Sir,

As you may be aware, Dengue fever (DF) is one of the most rapidly spreading mosquito-borne viral infections in the world. The WHO has described DF as an acute febrile illness of 2 to 7 days duration along with two or more of the following features: headache, myalgia/arthralgia, retro-orbital pain, rash, haemorrhagic manifestation (petechiae, positive tourniquet test) and leucopenia. The patients go through three phases in DF. The initial 2 to 7 days is called the febrile phase, and is characterized by fever, headache, myalgia and leucopenia. The second phase is the critical phase, which lasts for 24-48 hours and the patients experience a decline in temperature. This phase is also associated with thrombocytopenia, increase in haematocrit level as well as an increase in capillary permeability. Organ involvement in the form of hepatitis, myocarditis, encephalitis or bleeding may be seen. This is followed by the recovery phase, where there is a gradual resorption of the fluid from the extracellular compartment, along with a rise in platelet count and stabilization of haematocrit levels.[1]

A 22 year old boy hailing from an urban area presented to the Medicine OPD with complaints of high grade fever for the past 7 days. On examination, he had a temperature of 102°F. His other vitals and systemic examinations were normal. His blood investigations showed thrombocytopenia with platelet count of 60,000/cumm. His liver function tests had elevated enzymes (SGOT 162 U/L and SGPT 256 U/L). His renal functions, activated thromboplastin time and prothrombin time were normal. His Dengue serology was positive for NS1 antigen and IgM. Malarial smear, Weil Felix test, Widal test, leptospirosis serology and viral markers for HAV IgM, HbsAg, Anti HCV and HIV were negative. Urine microscopy, chest X ray and ECG were normal.

He was treated symptomatically with intravenous fluids, paracetamol and pantoprazole. By day 3 of admission (i.e. day 10 of illness), his platelet counts rose to 100,000/cumm, but he continued to be febrile with temperature spikes reducing to 100°F. Blood cultures were sent during fever spikes, which grew Staphylococcus schleiferi. As per culture and sensitivity reports, Levofloxacin was started on day 6 of admission (i.e., day 13 of illness); following which the patient became afebrile and was discharged on day 12 of admission. His repeat blood cultures were sterile and platelet counts normalized.

Staphylococcus schleiferi, a Coagulase-Negative Staphylococcus (CoNS), is an uncommon human pathogen. These organisms can cause more serious infections than the other CoNS, but are less virulent than Staphylococcus aureus.[2] One of the earliest reported case of Staphylococcus schleiferi infection was prosthetic valve endocarditis.[3] In a study conducted in Spain, it was noticed that majority of the patients with Staphylococcus schleiferi infection where immunosuppressed. Others had associated wound infections, mainly surgical-site infections; while the remaining were nosocomial or community-acquired.[4]

As stated earlier, the febrile phase of DF ranges from 2 to 7 days. A coinfection should be suspected when the febrile phase of DF exceeds the usual duration. There have been reports of malaria, typhoid, hepatitis A, leptospirosis, chikungunya and Zika virus coinfection with DF.[4-9] A coinfection of DF with Staphylococcus schleiferi has not been reported yet.

Key words: Staphylococcus schleiferi, Dengue fever, Coagulase-negative Staphylococcus

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RGM- Concept and design of case report, reviewed the literature, manuscript preparation, critical revision of manuscript and treating Physician.
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