Pulmonary valve infective endocarditis after severe fever with thrombocytopenia syndrome

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Background: Isolated pulmonary valve endocarditis (PVE) is a rare clinical entity, for which known risk factors include intravenous drug abuse, alcoholism, congenital heart disease and presence of prosthetic valve or central venous catheter. Severe fever with thrombocytopenia syndrome (SFTS) is an infectious disease caused by tick-borne SFTS virus. We present a case of isolated PVE due to Streptococcus mitis/oralis following SFTS.

Case presentation: A 56-year-old woman presented to the hospital with persistent headache, fever, abdominal pain, and diarrhea. She was on medication for hypertension and had a history of outdoor activity. The laboratory study showed pancytopenia and liver function test abnormalities. SFTS was diagnosed on hospital day 7. The blood cultures on hospital day 4 and 5 yielded S. mitis/oralis. On the transthoracic echocardiogram (TTE), a 6x4 mm sized mobile echogenic structure attached on PV was observed without valvular dysfunction (Fig.1A). Transesophageal echocardiogram (TEE) also revealed a 5x3 mm sized vegetation on PV (Fig.1B). The intravenous antimicrobial treatment with ampicillin and gentamicin was initiated on hospital day 7. At this time, fever, diarrhea, pancytopenia, and increased aminotransferase levels began to be improved, which might be due to the recovery from SFTS. The chest and pelvis CT demonstrated inguinal and external iliac lymphadenitis without any evidence of embolic event. Follow-up TTE performed after 14 days of antibiotic treatment showed decreased size of a vegetation to 4x4 mm (Fig.1C). The patient was discharged after 2 weeks of antimicrobial treatment without further management. Follow-up TTE after 3 months still demonstrated echogenic structure on PV implying the possibility of underlying fibroelastoma.

Conclusion: To the best of our knowledge, this is the first case report of PVE associated with S. mitis/oralis bacteremia occurred following SFTS. It seems that the enteritis with bacteremia and immunosuppression combined with pancytopenia, which were caused by SFTS, might have contributed to development of PVE in the setting of underlying fibroelastoma on PV. Keywords: Endocarditis; Pulmonary valve; SFTS

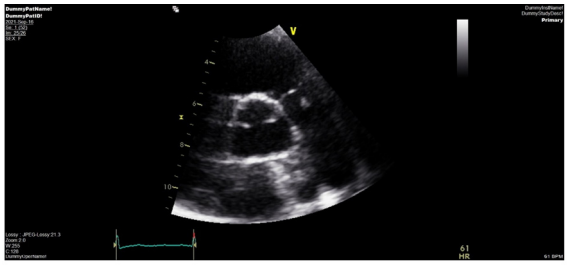

Figure 1A

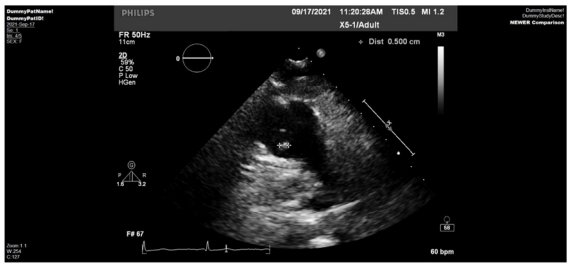

Figure 1B

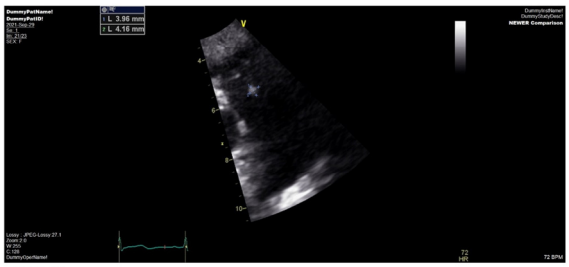

Figure 1C