

Multiple drugs

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Lack of efficacy, and various toxicities due to off-label use: case report

A 73-year-old woman developed *Enterococcus faecium* infection and bacterial endocarditis during off-label treatment with dexamethasone and tocilizumab for COVID-19 pneumonia. Additionally, she exhibited a lack of efficacy during treatment with meropenem, linezolid and teicoplanin for bacterial endocarditis [routes not stated].

The woman was hospitalised with cough, shortness of breath and fatigue in May 2021. Subsequently, her nasopharyngeal swab was positive for severe COVID-19 pneumonia. Her medical history was significant for arterial hypertension, type 2 diabetes mellitus, obesity and coronary heart disease. Later, her chest X-ray demonstrated bilateral pneumonia with ground-glass opacities. Following admission, she experienced dyspnoea and acute respiratory failure with oxygen saturation of 78%. Her blood test was significant for inflammatory syndrome, and she started receiving remdesivir along with prophylactic enoxaparin sodium [enoxaparin] and off-label treatment with dexamethasone 8mg two times a day and tocilizumab 800mg two times a day for COVID-19 pneumonia. Thereafter, her condition was favourable. However, on day 14, she developed fever (38.5°C) and her condition worsened. Also, her laboratory tests showed elevated procalcitonin level (4.1 ng/mL), liver transaminase levels (AST was 163 U/L and ALT was 120 U/L), troponin (152 ng/mL), D-dimer (1.78 µg EFU/mL) and decreased estimated glomerular filtration rate (41 ml/min/1.73m²). Subsequently, she developed respiratory distress and required non-invasive continuous positive airway pressure ventilation. Her pulmonary CT scan showed findings similar to chest radiological findings. Then, her blood culture was positive for *Enterococcus faecium*. Thereafter, she underwent transthoracic echocardiography, which demonstrated vegetation on the posterior mitral valve leaflet, leading to moderate mitral regurgitation. From the above investigation, she was diagnosed with infective endocarditis. The *Enterococcus faecium* infection and bacterial endocarditis were attributed to off-label dexamethasone and tocilizumab.

The woman was treated with meropenem 1000mg 3 times a day and linezolid 600mg two times a day. Initially, this treatment showed insignificant response. However, following 20 days, she developed thrombocytopenia with platelet count of 58 000/mm³. Then, her treatment with linezolid was changed with teicoplanin 12 mg/kg twice a day as loading dose and 12 mg/kg daily as a maintenance dose. Despite of this treatment, she developed multiple organ failure and died due to it on day 25 of the admission.

Bajdechi M, et al. Bacterial endocarditis masked by COVID-19: A case report. *Experimental and Therapeutic Medicine* 23: 186, No. 2, Feb 2022. Available from: URL: <http://spandidos-publications.com/10.3892/etm.2021.11109> 803635646