Multiple drugs

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Haemophagocytic lymphohistiocytosis and lack of efficacy: 3 case reports

In a case series, three patients [two male and one female; *exact ages not stated*] were described, who developed haemophagocytic lymphohistiocytosis following azd 1222 vaccine for COVID-19. Two out of three patients exhibited lack of efficacy during treatment with methylprednisolone, prednisolone, anakinra or immune globulin for haemophagocytic lymphohistiocytosis [HLH; *not all dosages and routes stated*].

Case 1: A male patient in his 60s, admitted to hospital with breathlessness, fevers and myalgia five days after receiving the first dose of the azd 1222 vaccine [ChAdOx1 vaccine]. He had a history of type 2 diabetes mellitus. During admission, he was initiated on unspecified broad spectrum antibiotics for presumed infection. A CT pulmonary angiography showed bilateral pleural effusions. The echocardiogram showed normal biventricular systolic function. His lab tests revealed an elevated ferritin levels. A diagnosis of HLH was made. He was treated with IV methylprednisolone 500mg and prednisolone 60mg. However, no improvement was noted (lack of efficacy). Thereafter, he was treated with IV immune globulin [immunoglobulin] and subcutaneous anakinra 100mg, which increased to 200mg. Eventually, an improvement was noted.

Case 2: A female patient in her 70s, presented to hospital with night sweats, breathlessness and myalgia seven days after receiving the first dose of azd 1222 vaccine. Her history included breast cancer in remission, thrombocythaemia and bee sting anaphylaxis. The chest X-ray demonstrated a right upper zone opacity. A CT scan showed bilateral patchy infiltrates consistent with an acute pneumonitis. An empirical treatment with unspecified oral antibiotics was started. Later, she was admitted to hospital due to persistent fever. Her fever subsided and discharged home. Again, she readmitted to hospital with progressive fevers, breathlessness, cough, weight loss and general malaise with an elevated serum ferritin. A repeat cross-sectional imaging showed progressive bilateral ground-glass opacities. A diagnosis of HLH was made. Repeat echocardiogram showed significant deterioration in LV function. Subsequently, she developed atrial fibrillation with haemodynamic compromise and a spontaneous pneumothorax requiring ICU admission. She was treated with IV methylprednisolone 500mg and prednisolone 60mg. However, no improvement was noted (lack of efficacy). Thereafter, she was treated with IV immune globulin [immunoglobulin] and subcutaneous anakinra 100mg, which increased to 200mg. Despite treatment, her condition deteriorated. She died on the very next day, due to catastrophic complications with oesophageal rupture.

Case 3: A male patient in his 30s, presented to hospital with fever, diarrhoea, sore throat and pruritic rash eight days after receiving the first dose of azd 1222 vaccine. His history included ankylosing spondylitis. He admitted to hospital after 15 days of vaccination due to worsening symptoms and breathlessness. The CT scan showed bilateral lung consolidation, pleural effusions, a pericardial effusion and mild splenomegaly. An echocardiogram showed mild left ventricular systolic dysfunction. He was initiated on unspecified antibacterial therapy. However, he continued to deteriorate. A repeat echocardiograph showed deterioration in LV systolic function. A positron emission tomography (PET) CT scan showed intense bone marrow uptake and hypersplenism. A diagnosis of HLH was made. He was treated with methylprednisolone and prednisolone. Eventually, he responded well and recovered.

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