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Image of the Month

Cholesterol pericarditis following COVID-19 vaccination

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A 61-year-old woman with unremarkable medical history was admitted due to 1-month worsening dyspnea. Three days before symptoms onset, she had received the first dose of vaccination against SARS-CoV-2 with the Oxford/AstraZeneca (recombinant) vaccine. At admission she was tachypneic, with a heart rate of 105 bpm, a blood pressure of 105/60 mmHg and a marginal pulsus paradoxus of 10 mmHg. Physical examination revealed muffled heart sounds and jugular veins distention. Chest X-ray showed cardiomegaly Fig. 1 (panel A). An electrocardiogram showed sinus

tachycardia, low QRS voltage and electrical alternans. Echocardiogram disclosed large circumferential pericardial effusion (yellow stars, panel B) with swinging heart, right atrial collapse (arrow) and remarkable inspiratory variation in the transmitral E wave. C-reactive protein was 11.5 mg/L (normal values < 5). Thus, pericarditis with near-cardiac tamponade was diagnosed and pericardiocentesis yielded 2 liters of haemorrhagic fluid. An extensive diagnostic work-up excluded a specific cause of acute pericarditis. Interestingly, pericardial fluid analysis revealed a high cholesterol

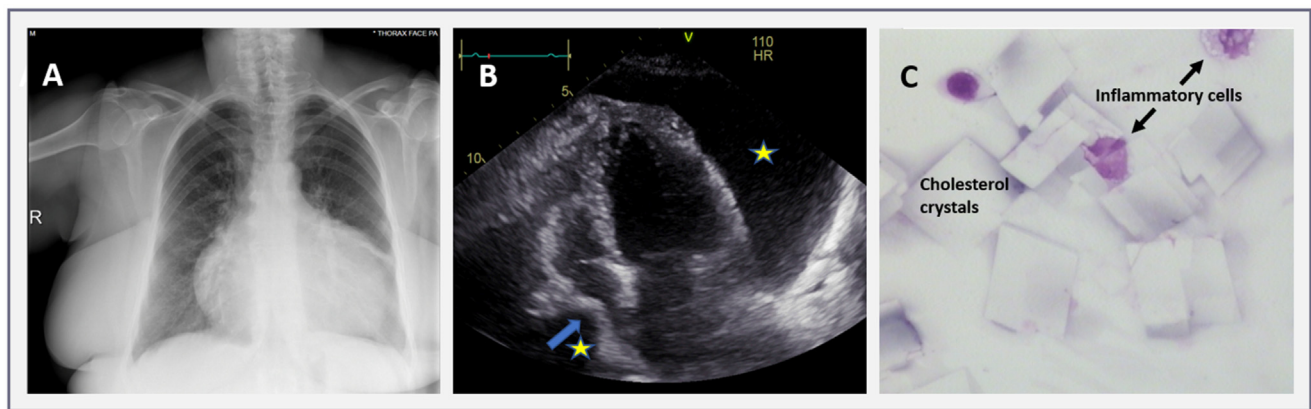


Fig. 1. Panel A: Chest X-ray depicts enlargement of the cardiac silhouette, Panel B: Echocardiographic study indicating large pericardial effusion (yellow stars) with right atrial end-diastolic collapse (blue arrow), Panel C: Pericardial fluid cytology (oil immersion light microscopy) showing numerous cholesterol crystals and inflammatory cells.

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content, similar to the serum values (182 vs 188 mg/dL respectively) and cytology depicted numerous cholesterol crystals (panel C). Based on the high cholesterol fluid content and the detection of cholesterol crystals, the diagnosis of subacute cholesterol pericarditis was established. In the absence of alternative etiologies and the temporal association with vaccination, cholesterol pericarditis was attributed to SARS-CoV-2 vaccination. Cholesterol pericarditis represents an extremely uncommon entity. Possible causes include rheumatoid arthritis, tuberculosis, hypothyroidism and trauma, although several cases remain idiopathic. To our knowledge, this is

the first relevant case following COVID-19 vaccination. The patient remains recurrence-free during an 18-month follow-up.

Conflict of interests

None.

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