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IMAGES IN CARDIOLOGY

Cryoglobulin-Induced Cardiomyopathy

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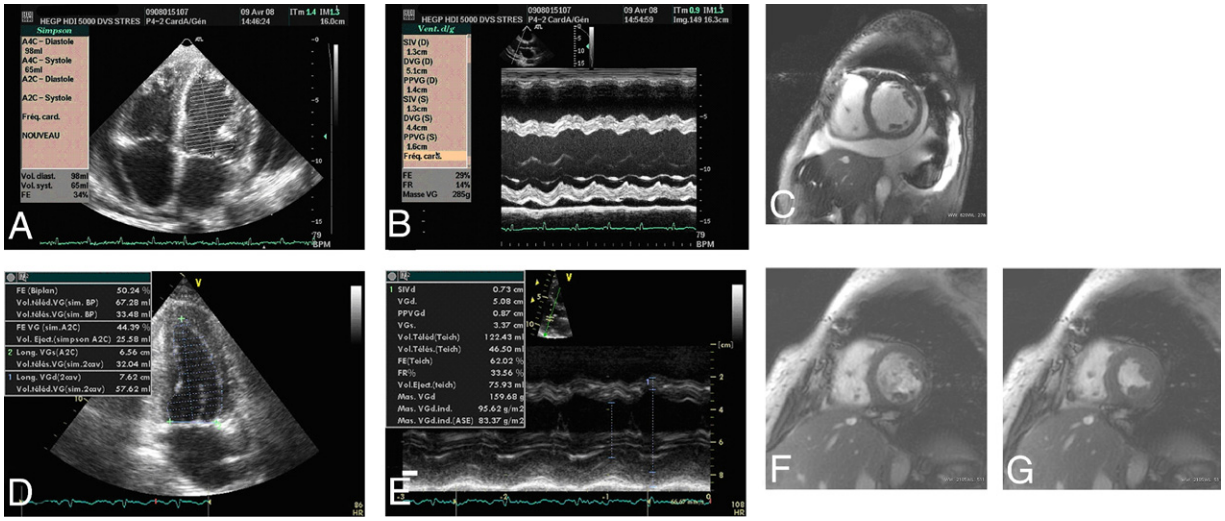

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A 63-year-old woman was admitted with dyspnea and massive lower limb edema. Active hepatitis C virus (HCV) infection had been diagnosed 3 years earlier. Her blood pressure was 131/71 mm Hg. Laboratory tests confirmed nephrotic syndrome, and serum creatinine was 2.7 mg/dl (estimated glomerular filtration rate was 18 ml/min/1.73 m^2). Immunologic workup revealed hypocomplementemia and type II (mixed) cryoglobulinemia. Kidney biopsy showed cryoglobulin-associated mesangioproliferative glomerulonephritis.

Ultrasonography disclosed moderate pericardial effusion and dilated cardiomyopathy with global hypokinesia and 29% left ventricular ejection fraction (**A and B**, Online Video 1). Cardiac magnetic resonance CMR imaging showed a mildly dilated but severely hypokinetic left ventricle (**C**, Online Video 2) but no late gadolinium enhancement. Coronary angiography was normal. We considered that HCV-related cryoglobulinemia was responsible for both the glomerulonephritis and the cardiomyopathy (1). After treatment with rituximab, a monoclonal anti-CD20 antibody, we observed B-cell depletion, clearing of cryoglobulin, and normalization of all renal parameters.

Cardiac re-evaluation was performed 4 months later. Ultrasonography showed dramatic improvement in left ventricular ejection fraction (**D and E**, Online Video 3), confirmed by CMR (**F and G**, Online Video 4). The HCV infection is currently treated with pegylated-interferon and ribavirin. No recurrence of cryoglobulinemia has been detected 16 months after rituximab therapy.

REFERENCE

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