Pericardial Effusion with Tamponade Secondary to Graft Versus Host Disease after Hematopoietic Stem Cell Transplant

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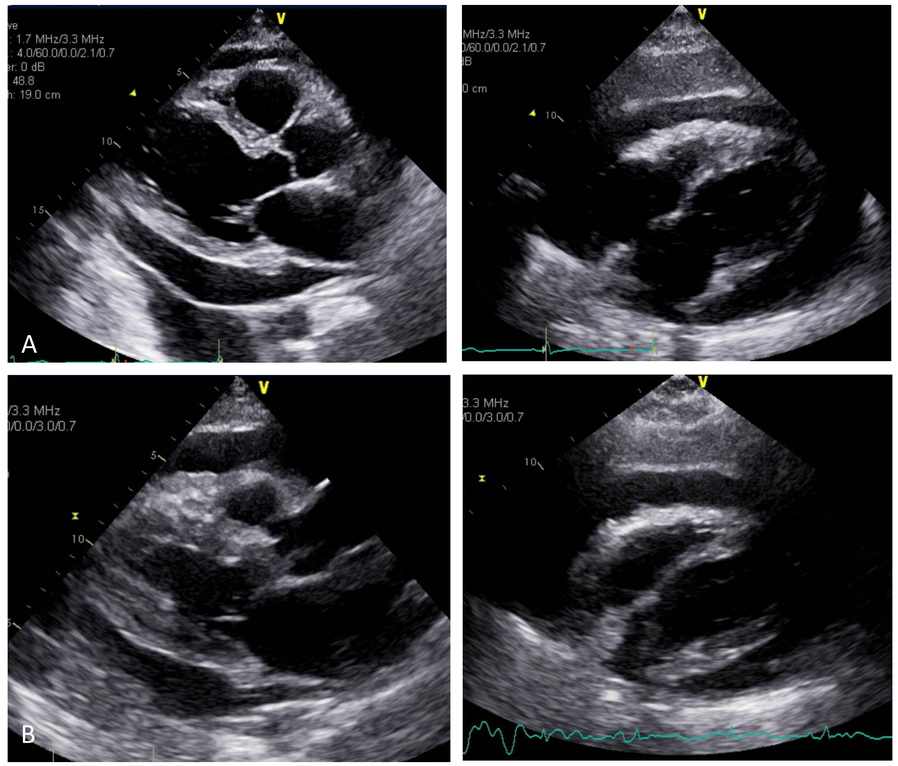
BACKGROUND

Large pericardial effusion (LPE) with subsequent tamponade is a rare complication following hematopoietic stem cell transplantation (HSCT). The incidence and pathogenesis is not well defined. LPE may develop with either sibling or matched unrelated donor. In late onset cases, it is believed to be secondary to chronic graft versus host disease (GVHD). Pericardiocentesis or pericardial window, and enhanced immunosuppression, can effectively control this complication.

Panel A. Echocardiogram performed 12/20/2018 with moderate pericardial effusion. Complete resolution of effusion seen after pericardiocentesis

Panel B. Echocardiogram performed 2/27/2019 shows re-accumulation with fibrinous material.



DISCUSSION

Etiologies of large pericardial effusion after stem cell transplant have been proposed: chemotherapy, infective pericarditis, malignancy, iron overload, autoimmune disorders. Large pericardial effusion secondary to GVHD should be considered when alternative etiologies have been excluded and re-accumulation of fluid occurs after pericardiocentesis without intensive immunosuppression. This case highlights potentially life threatening GVHD associated pericardial disease after HSCT.

CASE

A 61 year old female with a past medical history of polycythemia vera myelofibrosis, underwent a matched, related donor allogeneic HSCT in August 2017. On January 10, 2018, GVHD prophylaxis with Tacrolimus was tapered. She presented in February with a rash, diarrhea, dyspnea with exertion, and decreased breath sounds. Chest x-ray showed significant bilateral pleural effusions and concern for pericardial effusion. Cardiac echo showed a moderate pericardial effusion without tamponade. Skin biopsy confirmed grade 1 GVHD. Sigmoid biopsy confirmed grade 2 GVHD. Prednisone was increased to 50mg and Tacrolimus 1mg bid was restarted. After two months, symptoms improved and immunosuppression was again tapered.

She presented to Cardiology in May with worsening lower extremity edema. Cardiac echo showed trivial pericardial effusion. She stopped her Tacrolimus October 23rd and remained on prednisone 5mg daily. On December 6th, she developed progressive edema along with increasing shortness of breath and new rash. A follow up echo demonstrated a large circumferential pericardial effusion and left pleural effusion. A pericardiocentesis was performed on December 20, 2018 with removal of 800cc of clear serous fluid. Prednisone dose was increased, but Tacrolimus was not restarted. An echo performed two months later on February 27, 2019 showed a large pericardial effusion with evolving tamponade. A subxiphoid pericardial window was placed which drained serosanguinous and gelatinous pericardial effusion. She started mycophenolic acid with no recurrence.

Brandy Patterson, MD does not have any personal or professional financial relationships with commercial entities producing healthcare goods and/or services.