Grade 4 Infusion Reaction Causing Stress Cardiomyopathy And Cardiac arrest With Daratumumab A Very Rare Case Presentation

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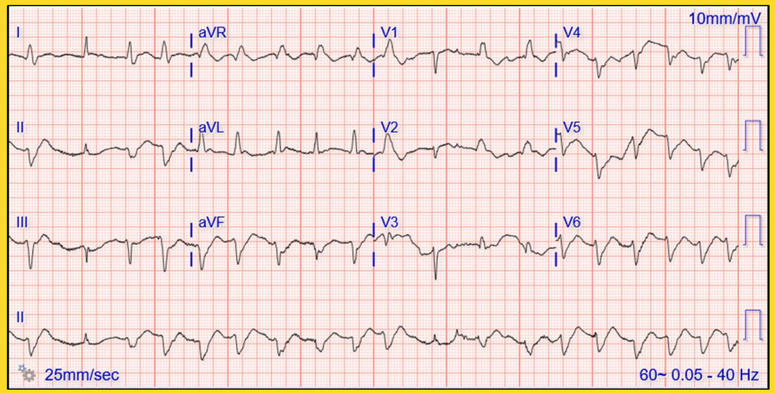
Background and Purposes

Daratumumab is a monoclonal antibody (mab) used in the treatment of multiple myeloma, it targets CD38 which is expressed in myeloma cells. While infusion reactions with daratumumab have been reported, cardiac adverse events with infusion are very rare.

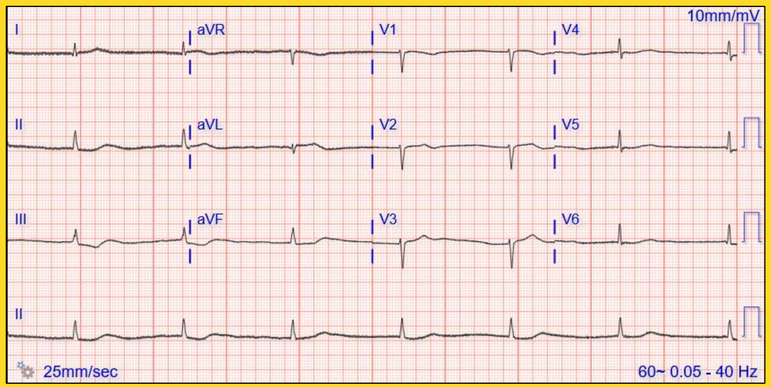
Case Description

A 65-year-old female with a history of paroxysmal atrial fibrillation and multiple myeloma presented to our emergency department with symptoms of facial flushing and dyspnea while receiving her first dose of daratumumab. On presentation, patient had low oxygen saturation and was placed on high flow oxygen. She was treated for an anaphylactic reaction with steroids and epinephrine. She was admitted to intensive care unit. Her initial electrocardiogram (ECG) showed atrial fibrillation which soon converted to junctional rhythm. Emergent limited bedside echocardiogram showed reduced left ventricular ejection fraction (LVEF), so a complete transthoracic echocardiogram was performed. Echocardiogram showed apical akinesis with LVEF of 40%. Patient's baseline LVEF was 55% with no wall motion abnormalities.

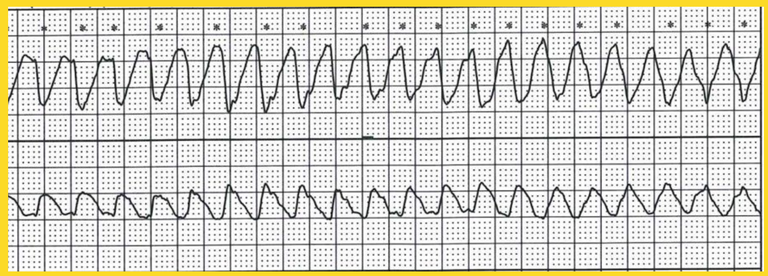
Electrocardiograms



ATRIAL FIBRILLATION WITH RAPID VENTRICULAR RESPONSE, INTERMITTENT SINUS BEATS , RIGHT BUNDLE BRANCH BLOCK



JUNCTIONAL RHYTHM, NONSPECIFIC ST-T ABNORMALITIES



MONOMORPHIC VENTRICULAR TACHYCARDIA

Clinical Course and Decision Making

Four hours later patient was in pulseless monomorphic ventricular tachycardia requiring resuscitation and intubation. She underwent cardiac catheterization which did not reveal coronary artery disease. Cardiac MRI showed left ventricular enlargement with severely decreased systolic function, diffuse akinesia of the mid to apical left ventricular segments and apex, without gadolinium enhancement. Over the following two days, patient improved, was extubated with normal vital signs and then discharged with wearable defibrillator, lisinopril and metoprolol succinate. Follow up in 2 weeks with repeat echocardiogram showed normal LVEF of 50%.

Conclusion

In clinical trials (monotherapy and combination treatments; N=1166) the incidence of any infusion-related reaction was 40% with the first infusion of daratumumab. Grade 4 infusion reactions were reported in 2/1166 (0.2%) of patients[1] There were no reported events of stress cardiomyopathy or arrhythmia. This case presentation is aimed at raising awareness among cardiologists and cardio-oncologists of the potential life threatening adverse cardiac affects of CD38 inhibitors and highlights the importance of developing management strategies.

References

1. Janssen. DARZALEX® Daratumumab Product Information

Disclosures

No Disclosures