Abstract: Unlocking the mystery of haemolytic anaemia after mitral valve repair

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Topic(s): Transesophageal Echocardiography

Citation: Hemolytic anemia is an uncommon complication after mitral valve repair. All possible causes should be excluded before making a diagnosis. Echocardiography is an important tool. Transthoracic echocardiography may underestimate the severity and direction of regurgitation jets. Transesophageal echocardiography is the helpful imaging modality helping identify an accurate mechanism.

A 55-year-old female with a history of mitral valve repair 5 years earlier presented with shortness of breath for 2 months. She noticed that she had intermittent jaundice and dark urine for 5 months but these symptoms were worsening and persistent for 2 months. She had no fever and abdominal pain. She did not take any medication. The physical examination revealed mark pale conjunctiva and icteric sclera. The apex of heart was palpated at 6th intercostal space lateral to the midclavicular line. The pan-systolic murmur was audible along the mitral valve area. The lung was clear and no pedal edema. Her complete blood count showed hematocrit of 13% with fragmented red blood cell and polychromasia in a blood smear. The level of aspartate transaminase, direct bilirubin, and lactate dehydrogenase was elevated with low haptoglobin level. A chest X-ray showed cardiomegaly without pulmonary edema. The diagnosis of autoimmune hemolytic anemia was made but her symptom was not improved after corticosteroid treatment. Transthoracic echocardiography revealed severe mitral regurgitation and paravalvular leak. The turbulent flow was seen across the mitral annuloplasty ring. She underwent mitral valve replacement to treat her symptoms. After an operation, her symptoms were significantly improved without any jaundice. The hemolytic anemia was resolved.

This case demonstrated an important role of transesophageal echocardiography, especially in post heart valve surgery patient. Although hemolytic anemia after mitral valve surgery is rare, it should be considered in every hemolytic anemia patient without other explainable causes. An accurate diagnosis is a crucial role in treatment.
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This case demonstrated an important role of transesophageal echocardiography, especially in post heart valve surgery patient. Although hemolytic anemia after mitral valve surgery is rare, it should be considered in every hemolytic anemia patient without other explainable causes. An accurate diagnosis is a crucial role in treatment.

Figure A: Peripheral blood smear revealed fragmented red blood cells (Schistocytes).

Figure B: TEE revealed a turbulent flow from mitral paravalvular leak causing severe mitral regurgitation.

Figure C and D: Intraoperative findings and mitral valve specimen. The artificial chords were torn at the posterior papillary muscle head level. The leaflets were fragile, inflamed, oedematous and having subacute to chronic infective endocarditis appearance. There was a paravalvular leak, 2 mm. hole, at A2/A3.