Mechanical hemolytic anemia after mitral valve surgery: a case report

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Introduction: Hemolytic anemia is well-known, but rare complication of mitral valve repair. The mechanism of intravascular hemolysis in patients with mitral regurgitation after mitral valve surgery is due to high shear stress of the erythrocytes caused by the regurgitation flow.[1]

Case report: We report a case of a 74-year-old female who presented with post-operative hemolytic anemia after mitral valve repair with a biological prosthesis. The patient's medical history was significant for bilateral mastectomy (breast carcinoma, radiation therapy), congestive heart failure, permanent atrial fibrillation, implantation of the biological mitral valve, aortic valve insufficiency and hyperthyroidism. Short after surgery, laboratory studies showed a significantly decreased hemoglobin (83 g/L), elevated levels of lactate dehydrogenase (1540 U/L) and bilirubin (45.5 µmol/L). The patient received multiple blood transfusions. Direct Coombs testing and DAT were negative. The findings were suggestive of hemolytic anemia. A transthoracic echocardiogram revealed a normal ejection fraction, mitral valve annuloplasty with regurgitation and tricuspid valve with regurgitation. The closure of the paravalvular leak on the biological mitral valve prosthesis and annuloplasty of the tricuspid valve was done. After reoperation, the patient's symptoms gradually resolved and her hemoglobin, lactate dehydrogenase and bilirubin levels normalized. After the procedure, the patient is transferred to the Intensive Care Unit. On the first postoperative day, she is weaned from the respirator and extubated 14 hours after admission. The patient enters a total AV block rhythm further guided by a temporary pacemaker. On electrocardiogram, sinus rhythm gradually recovered, and no permanent pacemaker was indicated. The patient was discharged on day 30 postoperatively in good condition.

Conclusion: Following mitral valve repair, clinically significant hemolysis is highly uncommon. The optimal treatment remains surgical repair or replacement because hemolysis rarely resolves spontaneously.

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LITERATURE

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