NJ). The stent was placed across the stenosis and dilated until the waist completely disappeared (Fig. 2c-d, Video 1). After stent implantation, the pressure gradient across the stent dropped from 21 mm Hg to zero. Echocardiographic and angiographic evaluation of the left pulmonary artery revealed no signs of obstruction. The saturation increased to 80% after the procedure. The patient was extubated soon after the procedure and discharged 4 days later with 85%-90% saturation in the room air. He had a surgical TAPVC repair at the age of 2.5 months (weight 5 kg). He was discharged from the hospital 12 days after the surgery.

Discussion

In patients with TAPVC, the most common drainage site is to the left innominate vein through the left vertical vein. The vertical vein courses posterior to the left pulmonary artery and anterior to the left main bronchus; it then ascends to the anterior mediastinum where it joins the left innominate vein. Obstructed TAPVC can cause severe hypoxia and acidosis because of pulmonary venous congestion (1, 3). Although surgical repair is the primary treatment modality for TAPVC patients, in critically ill patients, pulmonary vein obstruction or low body weight at the time of operation are potential risk factors for hospital mortality (3-6). The operative mortality is up to 7% for isolated TAPVC; this rate is higher in obstructed patients (5). Several previous cases have reported transcatheter interventional procedures as alternative therapeutic options for relief of obstruction and stabilizing clinical status before surgery (1, 3-4).

Conclusion

Stenting of the vertical vein is an effective therapy to acutely stabilize a sick neonate with obstructed supracardiac TAPVC. Catheter intervention should be considered as part of the preoperative cardiovascular stabilization strategy for high-risk infants with obstructed supracardiac TAPVC.

Video 1. Angiographic views.

References

mechanical valve in the aortic position. On echocardiographic evaluation, the patient’s maximum gradient on the aortic valve decreased from 100 mm Hg to 66 mm Hg during the 24th h and to 32 mm Hg during the second day of treatment. Severe aortic regurgitation regressed to minimal aortic regurgitation with a functional aortic valve. The patient was discharged after 7 days of warfarin therapy after the target INR reached 2.5.

**Discussion**

Reteplace is a thrombolytic agent derived from the human tissue plasminogen activator. Reteplase has been shown to have fibrin specificity similar to that of alteplase but with a lower binding affinity for fibrin. This enables reteplase to bind to the thrombus repeatedly and increases its fibrinolytic potential (1). Reteplase is mainly used for acute myocardial infarction that presents within 12 h of symptom onset and in addition to ST-segment elevation on ECG or new-onset left bundle-branch block, unless an alternative reperfusion strategy is planned (2). However, for the last few years it is also used for the treatment of acute pulmonary embolism and deep venous thrombosis and for thrombosed catheters (3, 4). The use of reteplase for stuck valves is limited in the literature and has been published for few cases of prosthetic mitral and aortic valve stenosis (5). This is the first case in the literature with a previous history of the Bentall operation, rather than isolated mechanical valve stenosis. If the patient had no benefit from reteplase, she would have undergone re-do surgery, for not only the stuck aortic valve but also for the previous Bentall operation, which would certainly increase the operative mortality.

**Conclusion**

The clinical use of reteplase in stuck valves is limited in the literature, and this is the first case of a Bentall patient reported in the literature. By choosing the right indication, reteplase may be an alternative in re-functioning of the stuck mechanical valves, particularly in high-risk patients, as in this case. The decision and follow-up should be made with close collaboration between the cardiologists and cardiovascular surgeons.

**Video 1.** Fluoroscopy showing recovery of leaflet motion of the mechanical valve in the aortic position.

**References**


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