Large Left Segmental Pulmonary Artery Pseudoaneurysm After Right Heart Catheterization
Successful Percutaneous Closure Combined With Balloon Mitral Valvotomy

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A 76-year-old woman with a history of rheumatic mitral valve disease, with severe stenosis and mild regurgitation, was admitted to our hospital in New York Heart Association class IV congestive heart failure, 2 months after an uneventful right heart catheterization was performed at another medical center. Chest x-rays showed pulmonary congestion and a large, dense, round image of \( \sim 5 \) cm in diameter on the left posteroinferior lobe (Figure 1A and 1B), which was not present in a previous chest x-ray (Figure 2). A contrast-enhanced computed tomographic (CT) scan of the lungs was consistent with a pseudoaneurysm originating from the posterobasal branch of the left pulmonary artery (Figure 3A and 3B).

Percutaneous treatment of the pseudoaneurysm was performed by closing the feeding artery with an Amplatz Vascular Plug 2 device (AGA Medical Corp, Plymouth, Minn.) of 6 mm (Figure 4). Concomitantly, successful balloon mitral valvotomy was performed during the same procedure.

The patient experienced symptomatic relief with significant improvement of the mitral valve area confirmed by 2-dimensional echocardiography. Chest x-rays and CT scanning performed 4 weeks after the procedure showed reduction of the pseudoaneurysm size, with its content totally thrombosed (Figure 5A and 5B).

Major complications associated with Swan-Ganz catheter insertion have been reported to occur in up to 17% of cases. Pulmonary artery rupture is a rare but serious complication. This is associated with an immediate mortality rate as high as 50%, secondary to aspiration and asphyxiation, after intrapulmonary hemorrhage. Some patients may remain asymptomatic and present with this as an incidental finding, such as in this case, whereas others present with hemoptyisis. In these cases, lung parenchyma usually contain the pseudoaneurysm, preventing extravasations. Nevertheless, \( \approx \) one third will present with recurrent hemorrhage, with an attendant mortality rate of 40% to 70%. Percutaneous closure of the pseudoaneurysm has become the standard of care because of its high efficacy and low rate of complications. Only in selected cases is surgery the preferred option; conservative management may be preferred in small lesions.

Disclosures

None.

References

Figure 1. Chest x-rays obtained at admission show pulmonary congestion and a round pulmonary mass.

Figure 2. Chest x-rays performed 1 month before right heart catheterization and 3 months before hospitalization, with no evidence of a pulmonary mass.
Figure 3. A, Axial CT scan of the lungs shows a large round mass containing iodine contrast in its interior. B, CT scan sagittal reconstruction shows the pseudoaneurysm arising from the posterobasal branch of the left pulmonary artery.
Figure 4. Selective left pulmonary artery angiogram shows the pseudoaneurysm (A) and its successful closure by an Amplatzer Vascular Plug 2 device of 6 mm (B).

Figure 5. Two-month follow-up x-rays (A) and CT scan (B) show reduction of the pseudoaneurysm size and thrombosis of its content.
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