IT'S STILL RIGHT! CARDIOMEMS DEVICE MIGRATION FROM LEFT TO RIGHT PULMONARY ARTERY

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INTRODUCTION

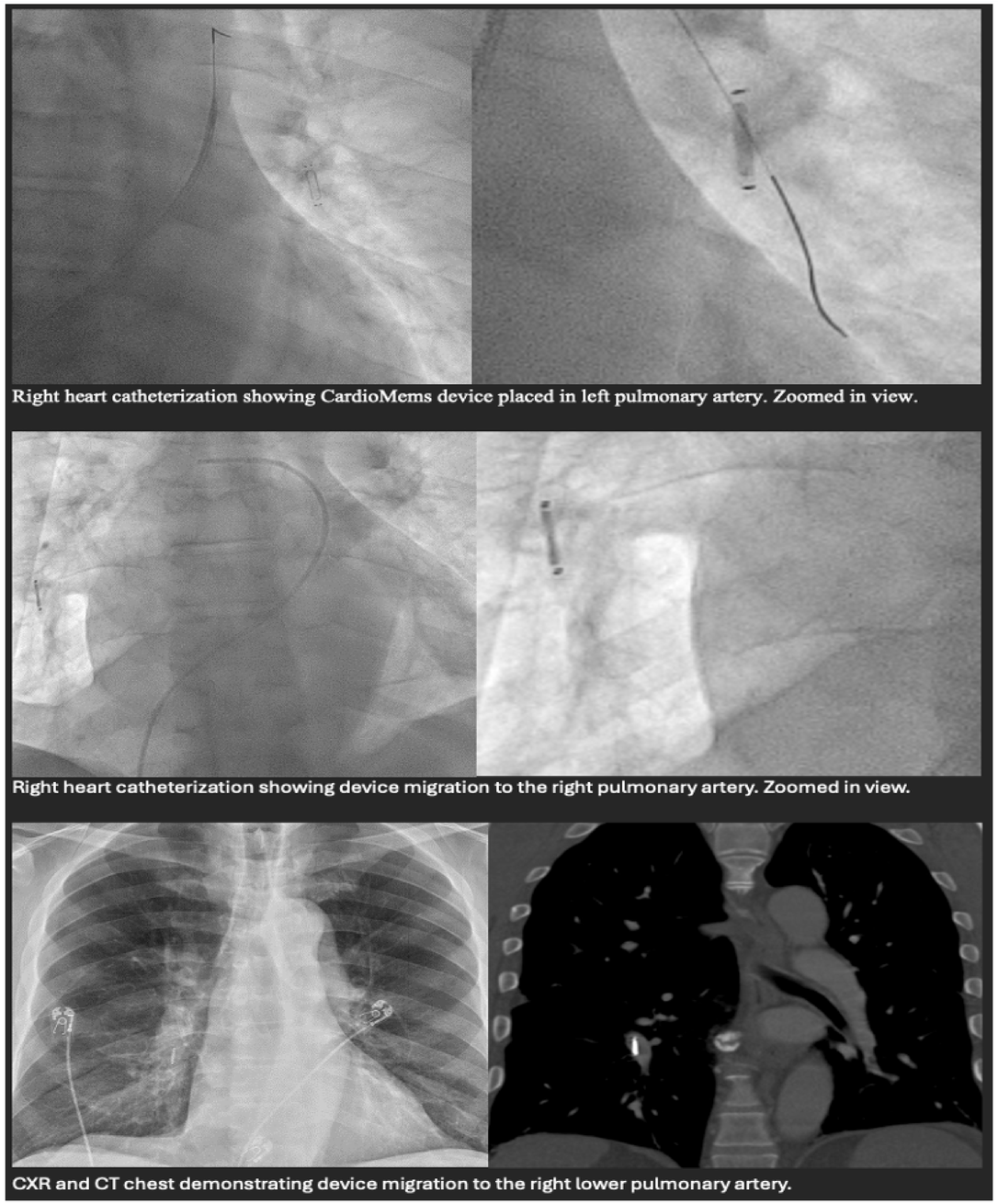
Heart failure affects millions of patients worldwide and is a significant public health issue with considerable cost. The CardioMEMS™ system is safe and reliable remote pulmonary artery (PA) pressure monitoring system, which allows for early detection of heart failure worsening. It's usually placed in the left PA. We present a case of device migration from left to right PA after initial device placement.

CLINICAL CASE

A 55-year-old male with past medical history of hypertension, nonischemic cardiomyopathy attributed to polysubstance abuse, heart failure with improved ejection fraction, NYHA class III heart failure symptoms, and COPD underwent elective CardioMEMS device placement. The device was successfully implanted into the left lower lobe posterior segment artery. There were no procedural complications and patient was discharged home. Chest Xray one month later showed device migration into the right pulmonary artery.

MANAGEMENT

Follow up imaging showed device migration into the right pulmonary arterial system. Repeat right heart catheterization was obtained which showed accurate and consistent pulmonary artery pressure readings from the device. Since PA pressure measurements were unaffected, no changes were made, and outpatient follow up was continued.



Right heart catheterization showing CardioMems device placed in left pulmonary artery. Zoomed in view.

Right heart catheterization showing device migration to the right pulmonary artery. Zoomed in view.

CXR and CT chest demonstrating device migration to the right lower pulmonary artery.

CONCLUSION

The most common complications with CardioMEMS monitoring device implantation include bleeding, infection and thrombosis. Current guidelines recommend deploying the device in a branch with > 7 mm diameter to avoid migration. Early and late migration of the CardioMEMS monitoring device has been reported, leading to inaccurate transmission of PA pressure readings and interfering with optimal medical management. In our case patient had relatively early device migration that did not affect device function. If device migration interferes with transmitted PA readings, recalibration using PA catheter or echocardiography can be considered.

DISCLOSURES

Authors have no disclosures.

REFERENCES

1. *Abraham W.T., et al. Sustained efficacy of pulmonary artery pressure to guide adjustment of chronic heart failure therapy: complete follow-up results from the CHAMPION randomized trial. Lancet. 2016;387:453–461. doi: 10.1016/S0140-6736(15)00723-0.*

2. *Maan Awad, Mark Colantonio, Marcelino Mederos Liriano, Matthew Santer, Katherine Shepherd, Affan Haleem, CardioMEMS monitoring device migration: A rare complication, Radiology Case Reports, Volume 19, Issue 7, 2024, Pages 2596-2599, SSN 1930-0433.*

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