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Pneumopericardium due to long sheath during transcatheter closure of PFO

FA Pac,¹ E Kibar,¹ TB Polat,¹ and S Topaloglu²

¹Department of Pediatric Cardiology, Turkiye Yuksek Ihtisas Education and Research Hospital, Ankara, Turkey.

²Department of Cardiology, Turkiye Yuksek Ihtisas Education and Research, Hospital, Ankara, Turkey.

Corresponding author: Department of Pediatric Cardiology, Turkiye Yuksek Ihtisas Education and Research Hospital, Kizilay S, No: 4, 06100, Sıhhiye, Ankara, Turkey

Phone & Fax: + 90.312.3061724 FREE + 90.312.3061724 &

+90.312.3124120 FREE + 90.312.3124120; Email: aysepac@gmail.com

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Pneumopericardium due to long sheath during transcatheter closure of PFO
Pneumopericardium is a rare complication of following cardiovascular intervention. Untreated, it can lead to cardiac tamponade and thus must be promptly identified to treat the underlying etiology.

We report a 64 year-old-woman developed pneumopericardium during transcatheter closure of patent foramen ovale (PFO). While retrieving the loader through the long sheath which was placed in to the left upper pulmonary vein, we detected radiolucent areas along the anterior wall of the heart suggesting pneumopericardium (Figure 1).

Figure 1 Radiolucent areas along anterior wall of the heart suggesting pneumopericardium



We believe that pulmonary vein was damaged due to the sharp edge of the long sheath. The long sheath was taken out and the procedure was stopped. The pneumopericardium was monitored by fluoroscopy and showed no progression. The patient's clinical and hemodynamic parameters remained normal and further intervention was not considered. The pneumopericardium resolved at the end of two weeks of follow-up and the PFO was later closed by transcatheter approach with 23/25 mm Figulla PFO occlusion device. In conclusion, the edge of the long sheath, which is used during PFO or ASD closure, may damage the pulmonary vein orifices which are the thinnest parts of heart. This is the first reported case complicated by pneumopericardium during this type of intervention.