

# Cor triatriatum with atrial flutter in an adult

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## Abstract

Cor triatriatum is a rare congenital heart malformation with different natural history which depends on the size of the aperture in the partition between the proximal and distal chambers. In classic cor triatriatum all pulmonary veins return to proximal chamber (accessory left atrium, aLA), but this case we reported with left upper pulmonary vein returned to distal chamber (true left atrium, tLA). The partition had one 5mm aperture that allowed this patient grown up to adulthood without any symptoms, but finally resorted to hospital with symptomatic atrial flutter and detected this cor triatriatum accidentally. Atrial flutter may be a long-term complication of cor triatriatum during its natural history, surgical correction of cor triatriatum and radiofrequency ablation for atrial flutter is recommended once diagnosed.

## Cor triatriatum with atrial flutter in an adult

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**Abstract** Cor triatriatum is a rare congenital heart malformation with different natural history which depends on the size of the aperture in the partition between the proximal and distal chambers. In classic cor triatriatum all pulmonary veins return to proximal chamber (accessory left atrium, aLA), but this case we reported with left upper pulmonary vein returned to distal chamber (true left atrium, tLA). The partition had one 5mm aperture that allowed this patient grown up to adulthood without any symptoms, but finally resorted to hospital with symptomatic atrial flutter and detected this cor triatriatum accidentally. Atrial flutter may be a long-term complication of cor triatriatum during its natural history, surgical correction of cor triatriatum and radiofrequency ablation for atrial flutter is recommended once diagnosed.

A 29-year-old man with symptomatic atrial flutter was admitted to our hospital for cryoablation. A routine preoperative transthoracic echocardiogram detected the cor triatriatum. A diaphragm structure dividing the left atrium into proximal (aLA) and distal (tLA) chambers which communicating via a 5mm aperture on the diaphragm (panels A-D). Heart computed tomography scan showed the aLA contained all pulmonary vein connections except for left upper pulmonary vein which connected to tLA (panels E-H). The patient underwent surgical resection of the diaphragm (panel I) and radiofrequency ablation under cardiopulmonary bypass. The postoperative course was uneventful and the patient was discharged 7 days after surgery.

**Consent** The study were approved by the relevant ethics committees, and oral informed consent was obtained for the participant.

**Figure legend:** *tLA* , true left atrium; *aLA* , accessory left atrium; *RA* , right atrium; *RV* , right ventricle; *LV* , left ventricle; *Ao* , aorta; *LAA* , left atrial appendage; *LLPV* , left lower pulmonary vein; *LUPV* , left upper pulmonary vein; *RLPV* , right lower pulmonary vein; *RUPV* , right upper pulmonary vein. *White arrow* , atrial septum; *arrow head* , the diaphragm; *black arrow* , the aperture on the diaphragm.

