

Always on Watch: Prompt Recognition and Multidisciplinary Management of a Left Atrial Appendage Perforation During a Watchman Device Placement

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BACKGROUND

- A collaborative, multidisciplinary approach is necessary to guide the prompt recognition and emergent treatment of a left atrial appendage perforation during a Watchman device placement
- Intraoperative echocardiography skills enable anesthesiologists to promptly recognize acute pericardial effusions, a capability that can be lifesaving during cardiac procedural complications
- Swift, judicious and collaborative actions are required by a multidisciplinary team to manage sudden intraoperative shock and tamponade

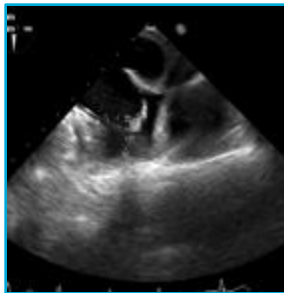
CASE DESCRIPTION

- 80 year-old male with PMHx of HTN, atrial fibrillation, HLD and CAD
- Unable to continue anticoagulation for atrial fibrillation secondary to bleeding
- High risk for embolization/stroke
- Scheduled for Watchman device placement under general anesthesia with TEE guidance in the cath lab

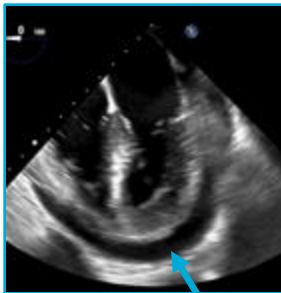
CLINICAL COURSE

- Induction with fentanyl, propofol, and rocuronium
- General anesthesia maintained on Sevoflurane
- Post-Induction TEE demonstrated left atrial appendage free of thrombus
- Approximately one hour into the procedure, the patient developed sudden intractable hypotension
- TEE demonstrated an acute pericardial effusion
- Chest compressions were initiated and 1 mg of epinephrine IV administered before ROSC achieved
- An epinephrine infusion was started
- Patient was emergently transferred to the OR from the cath lab for evacuation and control of bleeding while MTP was in progress
- Arterial and central lines were placed, and the patient was cannulated for bypass
- A left atrial appendage tear was repaired
- Weaned off CPB on norepinephrine and dobutamine. Extubated on POD 1
- Discharged home on POD 5 with no neurological sequelae

**TEE Before
Watchman Attempt**



**Pericardial Effusion
Identified on TEE**



**Repaired LAA Perforation
with Resolution of
Pericardial Effusion**



Pericardial Effusion

DISCUSSION

- Atrial fibrillation is a leading cause of cardioembolic stroke. A Watchman device can be delivered percutaneously to occlude the LAA and prevent thrombus formation.
- Risks include an acute pericardial effusion due to mechanical trauma
- Advanced TEE monitoring allows for prompt recognition of acute pericardial effusion leading to early activation of ACLS and the cardiac surgical team
- This patient's favorable outcome demonstrates the exceptional coordinated care between specialties needed to achieve optimal results during the most challenging scenarios

REFERENCES

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- Zahra Chakeri, Seyed Ali Nabipour Ashrafi, Kumar T, et al. Left Atrial Appendage Occlusion: An Update of Techniques with Focus on the Role of Cardiac CT in Pre and Post Intervention Management. *Current Radiology Reports*. 2024;12(10):97-111. doi:<https://doi.org/10.1007/s40134-024-00430-x>