Transcatheter Retrieval of Embolized ASD Occluder Device by Waist Capture Technique

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Case Presentation

- 51-year-old man

- Dyspnea on exertion,
  (functional class grade II of New York Heart Association)

- Fixed split 2nd heartsound & 2/6 systolic ejection murmur at the left upper sternal border
Initial ECG
Chest radiography
Transthoracic echocardiography
Transthoracic echocardiography

FR 52Hz
14 cm
2D 65%
C 50
P Med
HPen

FR 45Hz
18 cm
2D 65%
C 50
P Med
HPen

FR 17Hz
19 cm
2D 57%
C 50
P Med
HPen

FR 18Hz
17 cm
2D 60%
C 50
P Med
HPen

RVOT VTI
Vmax 133 cm/s
Vmean 91.6 cm/s
Max PG 7 mmHg
Mean PG 4 mmHg
VTI 26.9 cm

LVOT VTI
Vmax 95.6 cm/s
Vmean 67.3 cm/s
Max PG 4 mmHg
Mean PG 2 mmHg
VTI 45.3 cm

SV (LVOT) 51 ml
Qp/Qs 2.6
Transeosophageal Echocardiography

Defect size 20*18mm

Posterosuperior rim > 10mm
Posteroinferior rim > 10mm
Posterior rim > 10mm
Coronary sinus rim > 10mm
Anteroinferior rim > 10mm

Anterosuperior rim 2mm
Percutaneous transcatheter closure of ASD
Percutaneous transcatheter closure of ASD

9Fr Amplatz delivery system
Amplatz septal occluder 22mm
Post-procedural TEE
F/U CXR
Retreival of Amplatzer septal occluder

0.035” Guide Wire
8-French Guiding shuttle
15mm goose neck snare
Retrieval of Amplatzer septal occluder

0.014" Guide Wire (Length 2m)

8-French Guiding shuttle (inner diameter 2.87mm)
Retreival of Amplatzer septal occluder

0.014" Guide Wire

8-French Guiding shuttle (inner diameter 2.87mm)

15mm goose neck snare

12-French catheter (only sheath, inner diameter 4mm)
Post Retrieval - TEE
2nd Percutaneous transcatheter closure of ASD

9Fr Amplatzer delivery system
Amplatzer septal occluder 26mm
F/U CXR
Device embolization is the most commonly encountered complication, which may relate to inadequate rims, improper sizing, or placement of the device.

Emergency open heart surgery for device retrieval is the standard rescue procedure.

<table>
<thead>
<tr>
<th>Authors</th>
<th>Chan33</th>
<th>Waigh39</th>
<th>Massimo40</th>
<th>Spies41</th>
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<tbody>
<tr>
<td>Year</td>
<td>1999</td>
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<td>2002</td>
<td>2007</td>
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<tr>
<td>Patient number</td>
<td>100</td>
<td>77</td>
<td>417</td>
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<td>Used devices</td>
<td>ASO</td>
<td>ASO</td>
<td>SF/ASO/CS</td>
<td>ASO</td>
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<tr>
<td>Overall complication rate</td>
<td>5%</td>
<td>3.9%</td>
<td>8.6%</td>
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<td>Major complications</td>
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<td>3.9%</td>
<td>2.6%</td>
<td>7%</td>
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<tr>
<td>Atrial fibrillation</td>
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<td>Supraventricular tachycardia</td>
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<td>Complete heart block</td>
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<tr>
<td>Device embolization</td>
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<tr>
<td>Pericardial effusion</td>
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Device embolization incidence
0.3-1%


Am J Cardiol 2009;103:550–554
Transcatheter retrieval of the embolized device is possible in about 50% of cases


bioptome

pigtail


Tex Heart Inst J 2012;39(5):653-6
How to retrieve the embolized ASD occluder device?

Before retrieval, the embolized device should be **stabilized**

Try to snare **the screw on the RA disk**, not LA disk

Make to **slenderize** the device on large in **slightly larger sheath**
Thank you for your attention!