

A Complication of Retrograde PCI

Hiroshi Hashidomi, M.D.

**Division of Cardiology and
Catheterization Laboratories**

Heart Center at Sapporo Higashi Tokushukai Hospital

Case

A 74-year-old male

Chief complaint: None

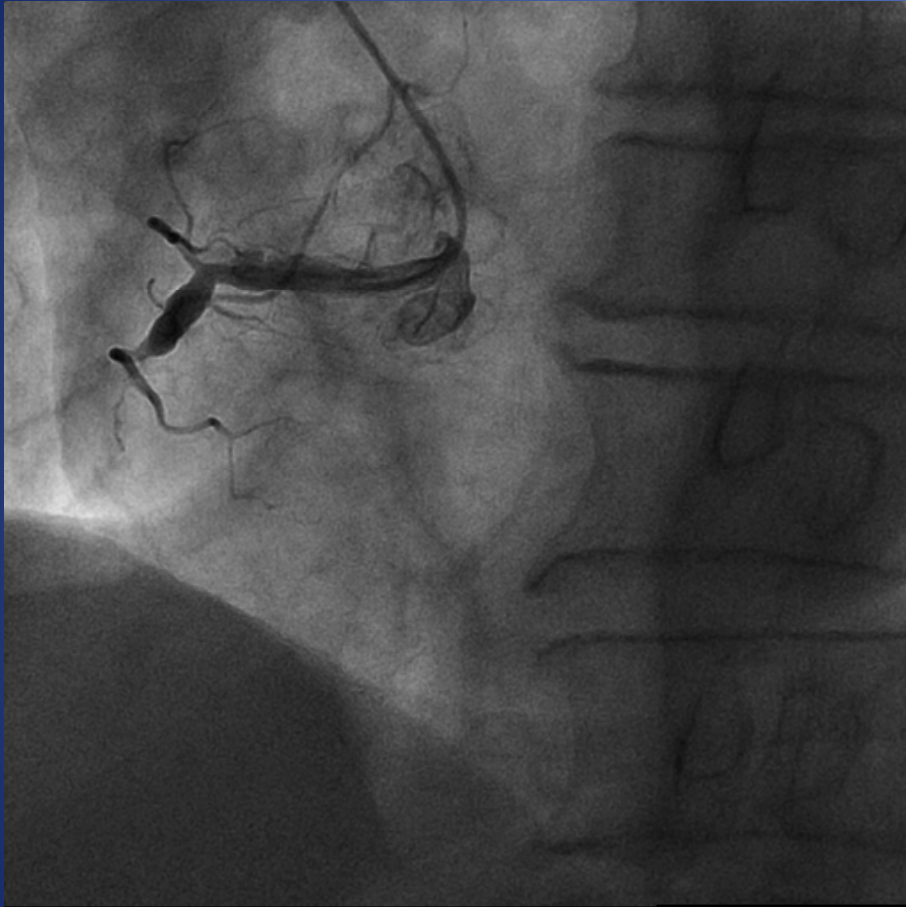
Medical/surgical history: Hypertension

Present illness: This patient was introduced to our hospital for surgery of an abdominal aortic aneurysm. Angiography was performed as preoperative investigation.

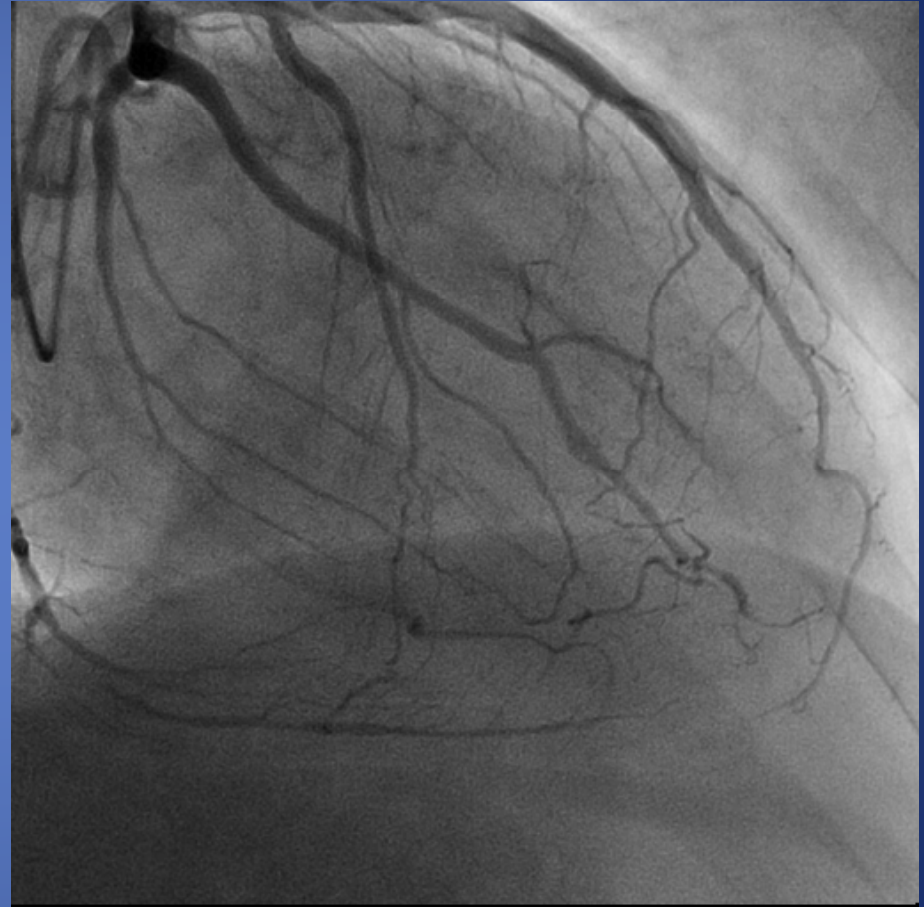
ECG: Sinus rhythm, no abnormal Q waves

Echocardiography: EF 0.66 , no valvular disease, no wall motion abnormalities

Angiography Image

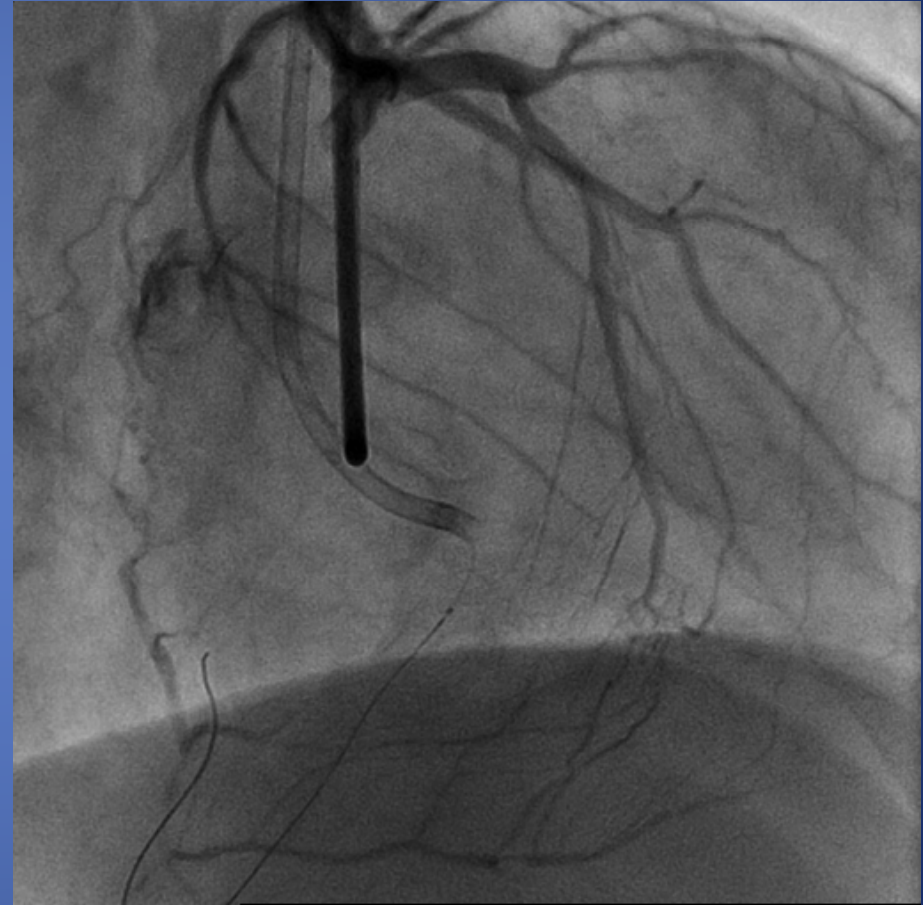
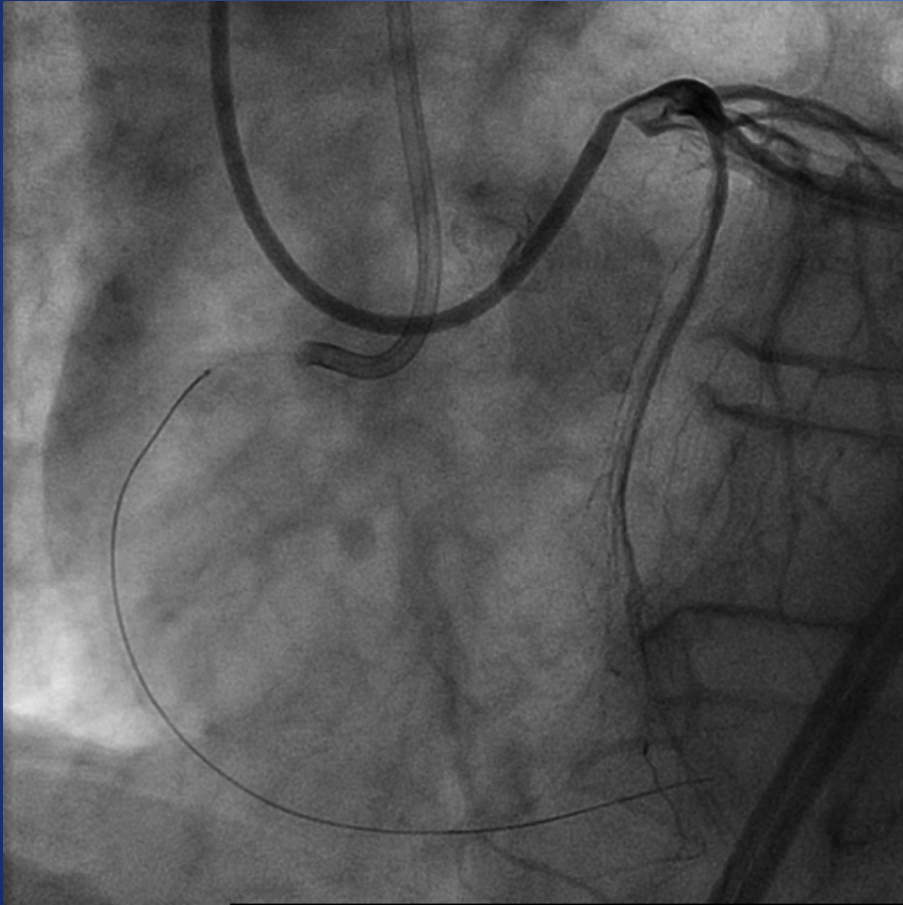


CTO in the RCA

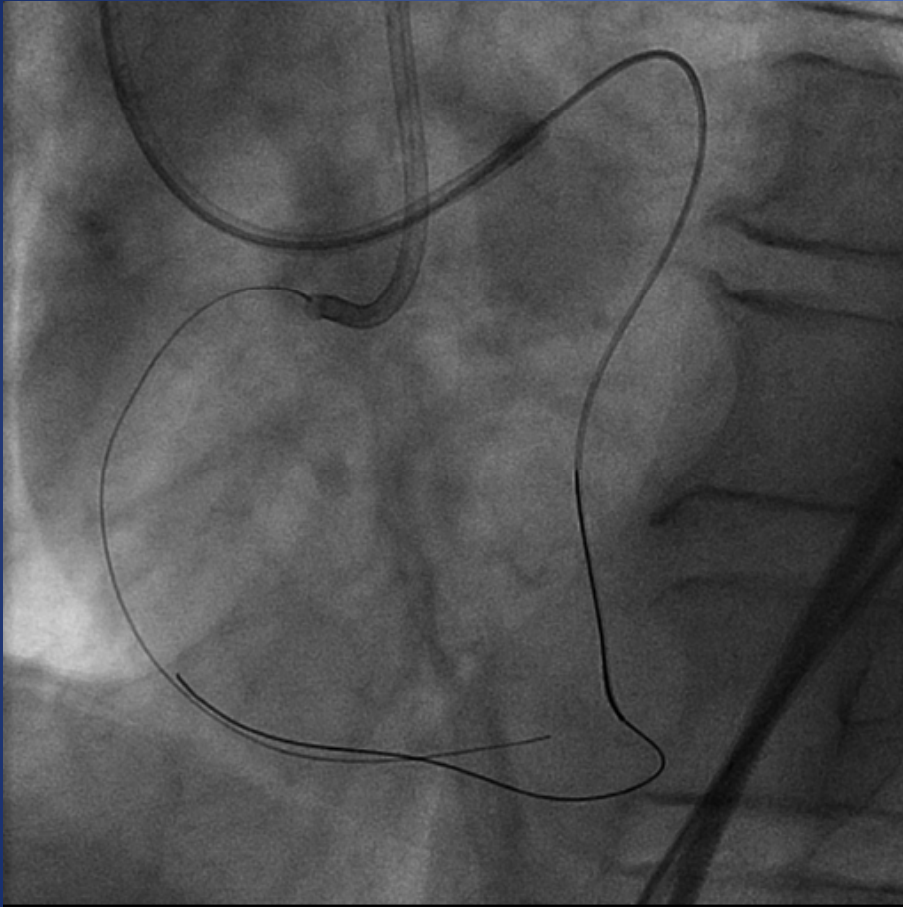


Septal collateral channel

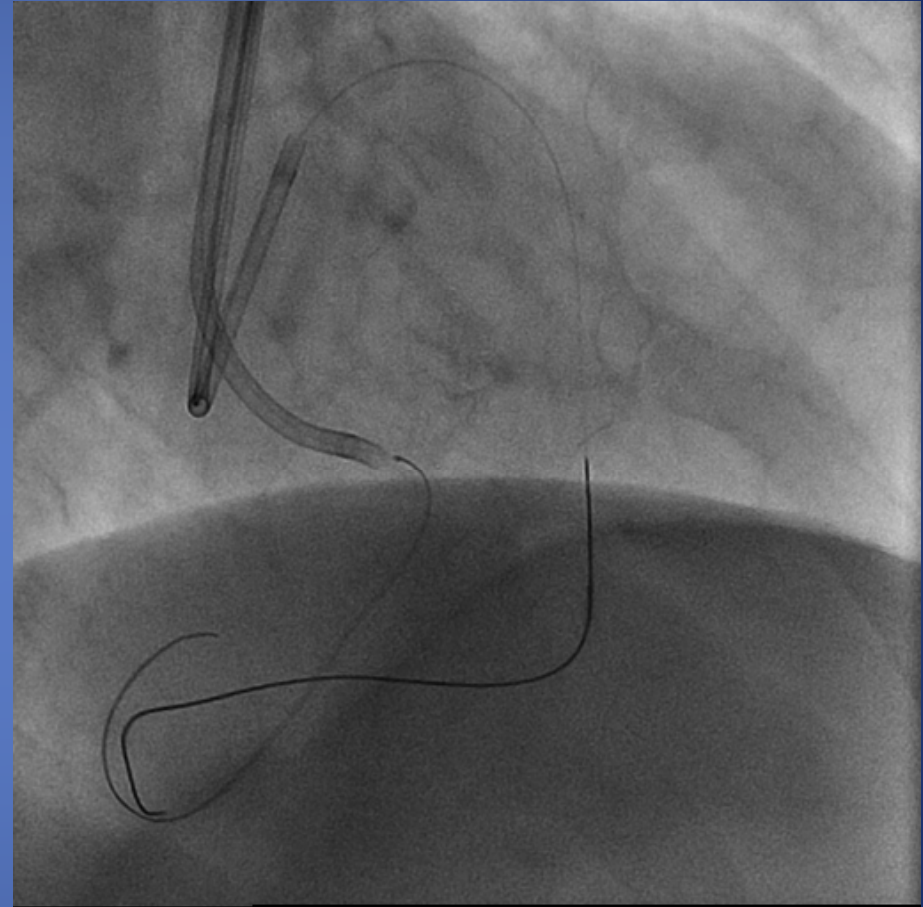
Antegrade Approach



Retrograde Approach

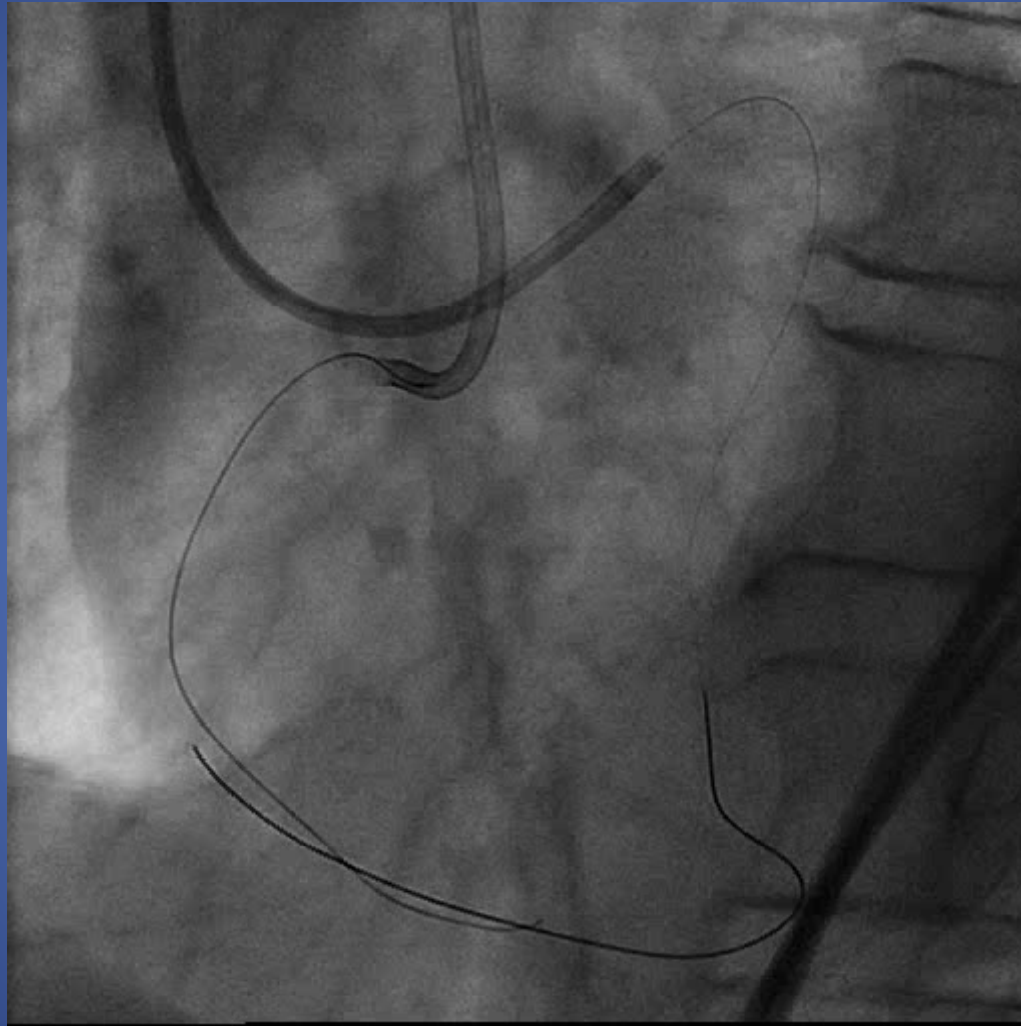


Tornus[®] microcatheter
in the septal collateral



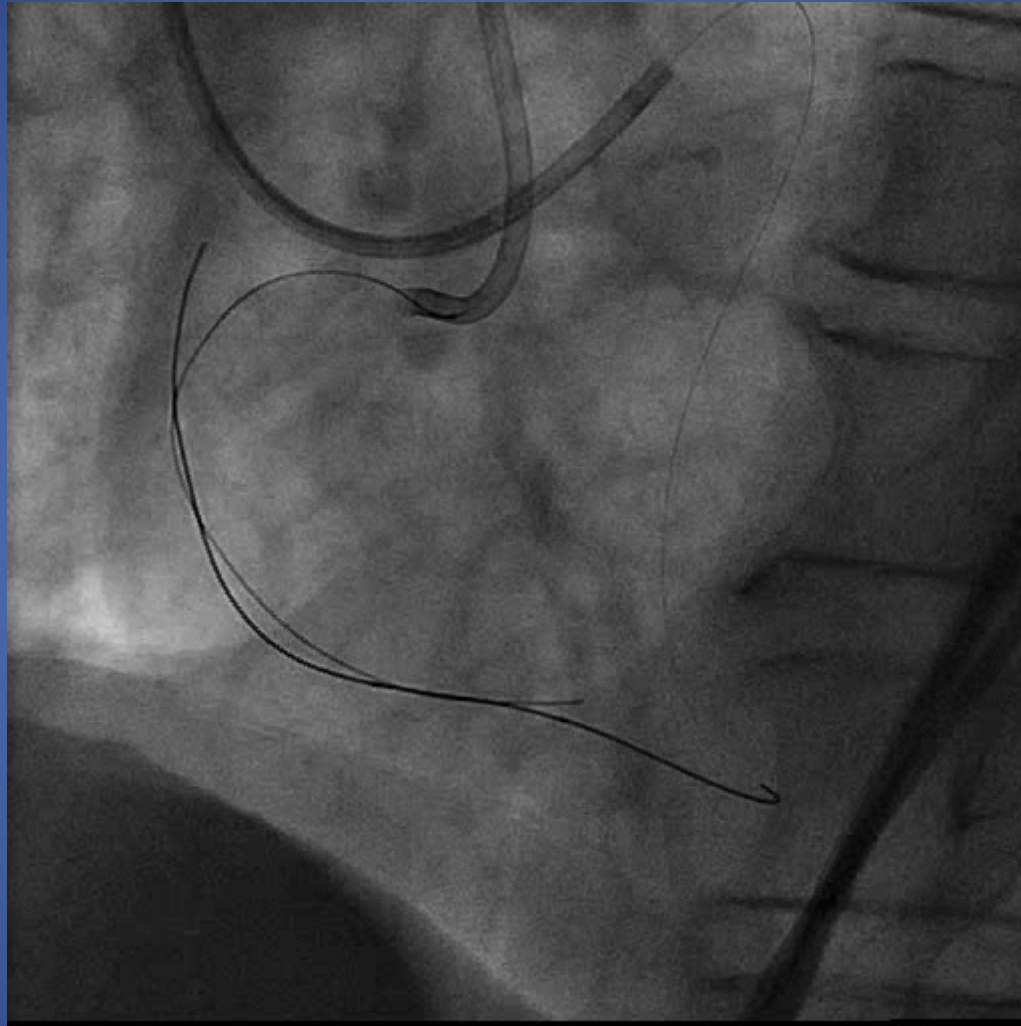
Dilation of the septal collateral
with a 1.5 × 8mm Apex[®]

Aneurysm of the septal channel



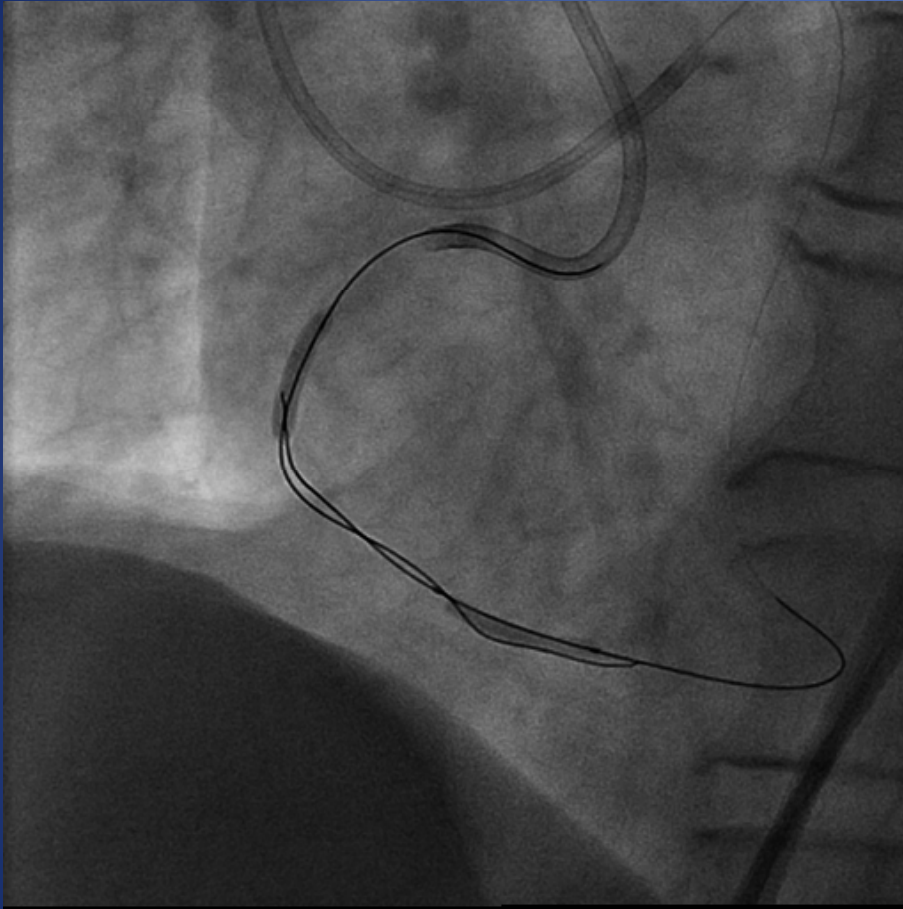
Septal artery aneurysm with a fistula to the cardiac ventricle

Aneurysm of the septal channel

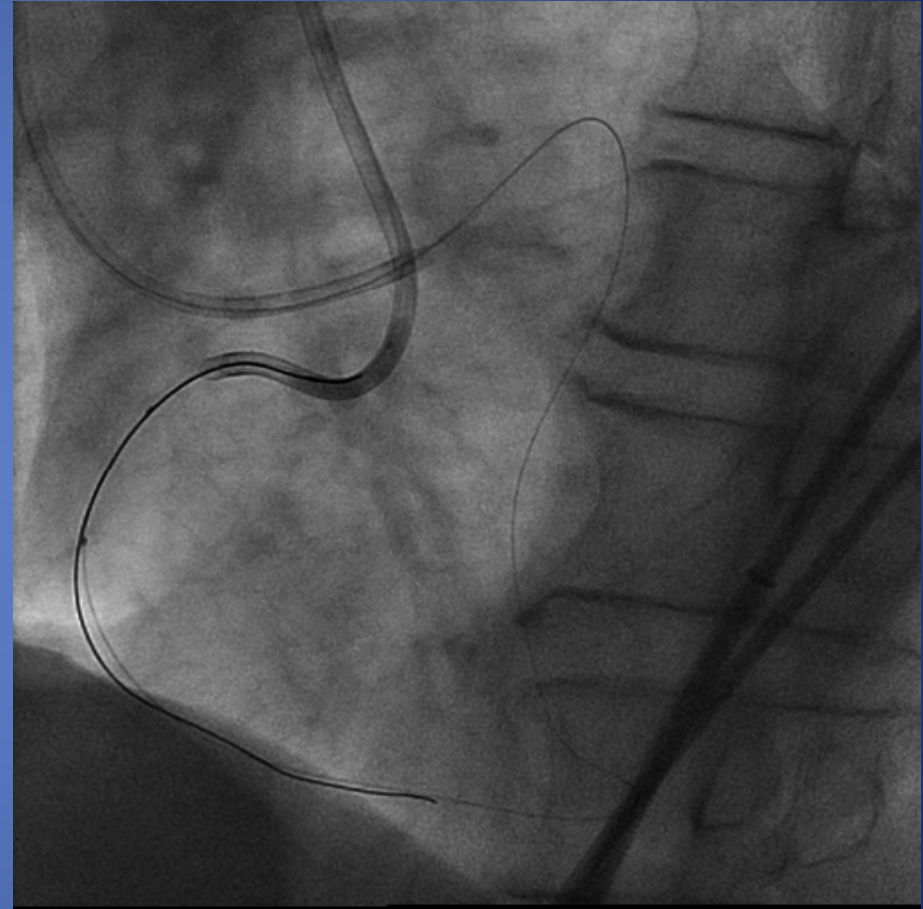


After insertion of the $2.0 \times 20\text{mm}$ Hiryu[®] over- the-wire into the RCA through the septal channel

Retrograde Approach

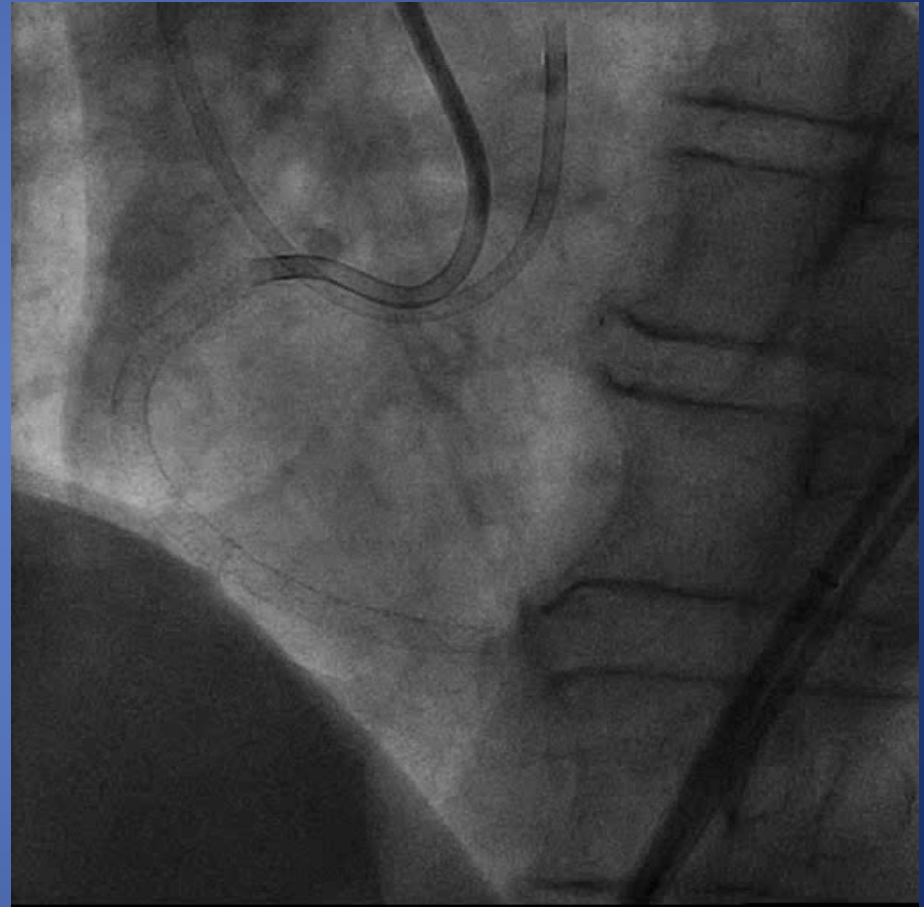
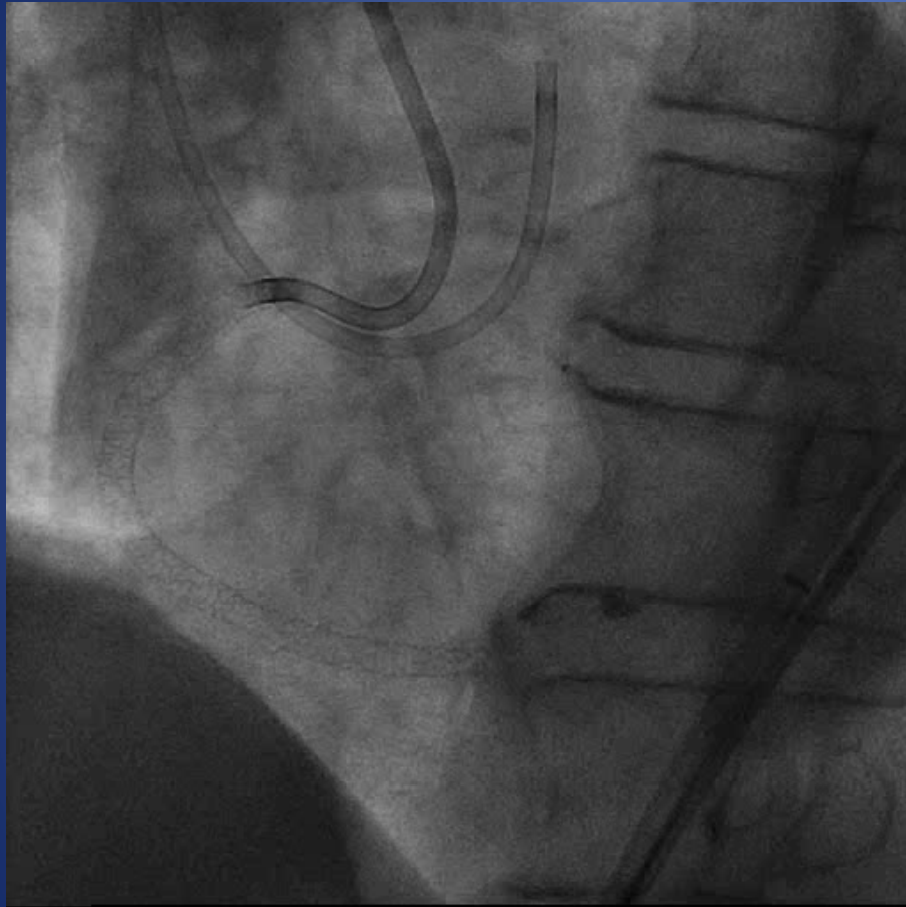


Reverse CART

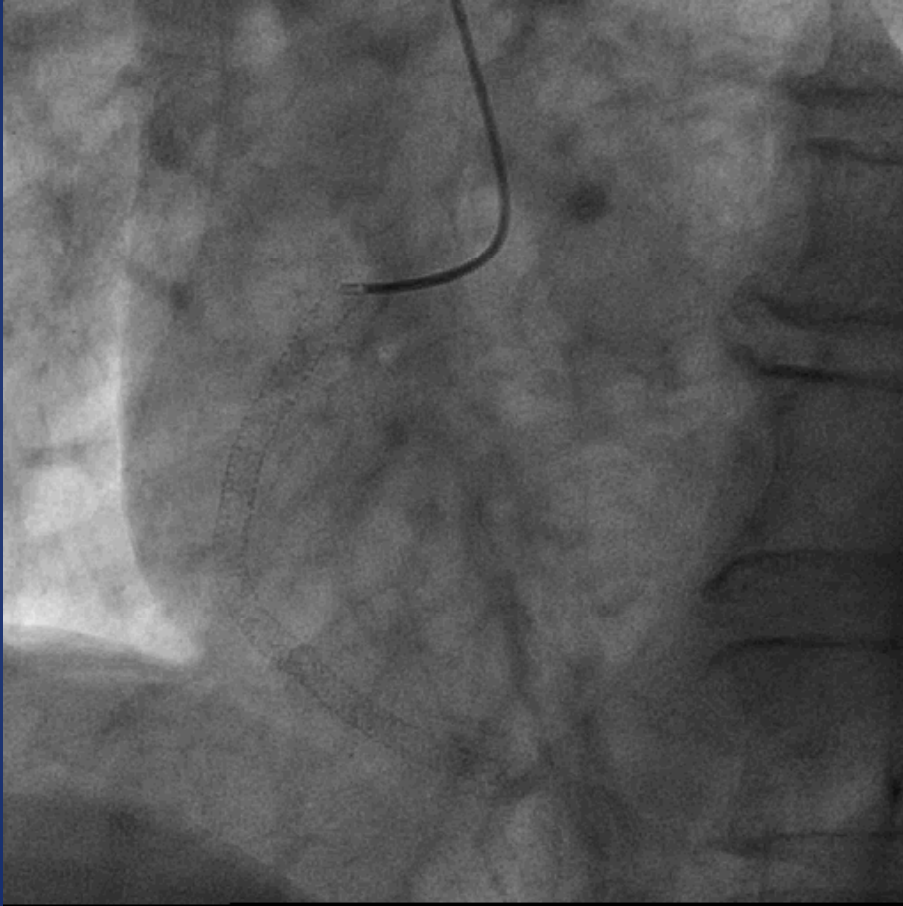


Entrapment of the retrograde guidewire in the guiding catheter

Final CAG



1 Month Later



The RCA was totally occluded again,
and the aneurysm had almost no changes

In Literature



Rupture of the septal channel aneurysm and subsequent cardiac tamponade

Hashidomi H, Saito S. J Interv cardiol 2011; 24: 73-76

Conclusions

- PCI for CTO lesions is still technically challenging, however, its success rate has improved
- Septal collateral channels are most frequently used access routes in retrograde PCI
- There are very few case reports that shows aneurysmal formation of septal collateral channels
- It supposed not to result to disastrous situation even if the septal colleteral aneurysm ruptures
- However, rupture of a septal collateral channel is not always a safe complication, and sometimes it leads to cardiac tamponade