

Complication for CTO

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Coronary perforation of CTO

Coronary perforation

Reason for perforation

- Stiff guidewire
- Oversize balloon, stent
- Retrograde access

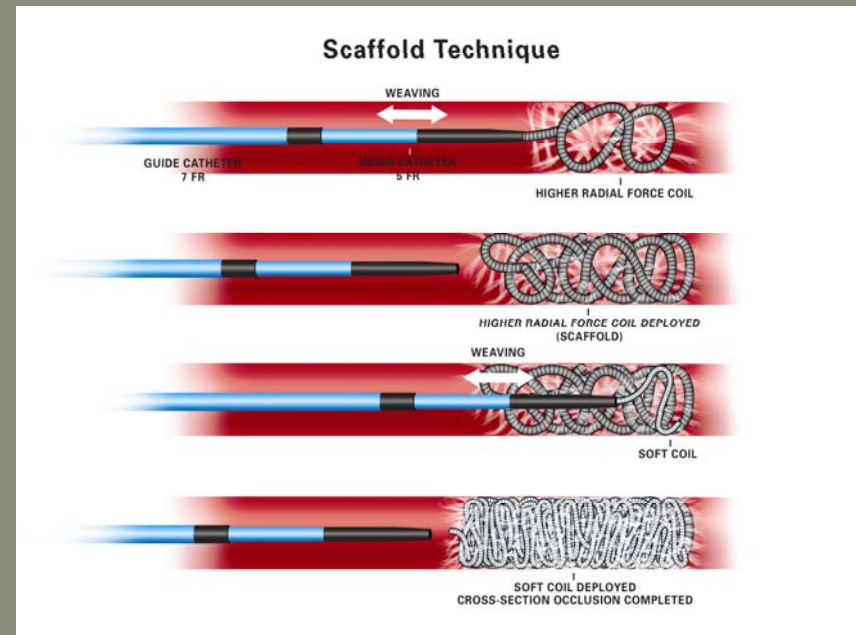
Prevention for perforation

- Careful manipulation of guidewire
- Correct reading angiogram
- IVUS, MSCT guide

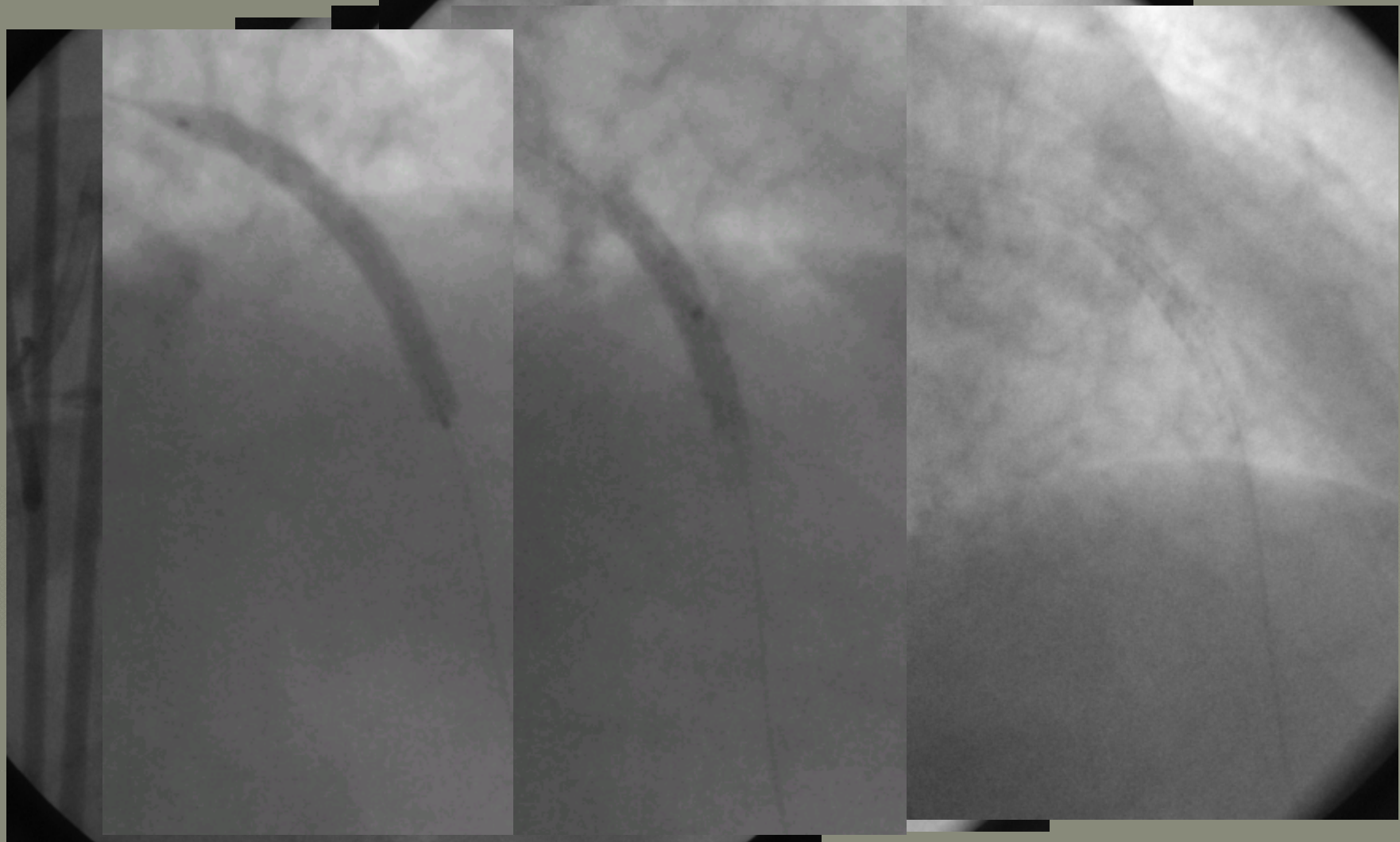
Treatment for perforation

- Long time inflation of balloon
- Graft stent
- Embolization by coil, tissue
- Cardiac drainage

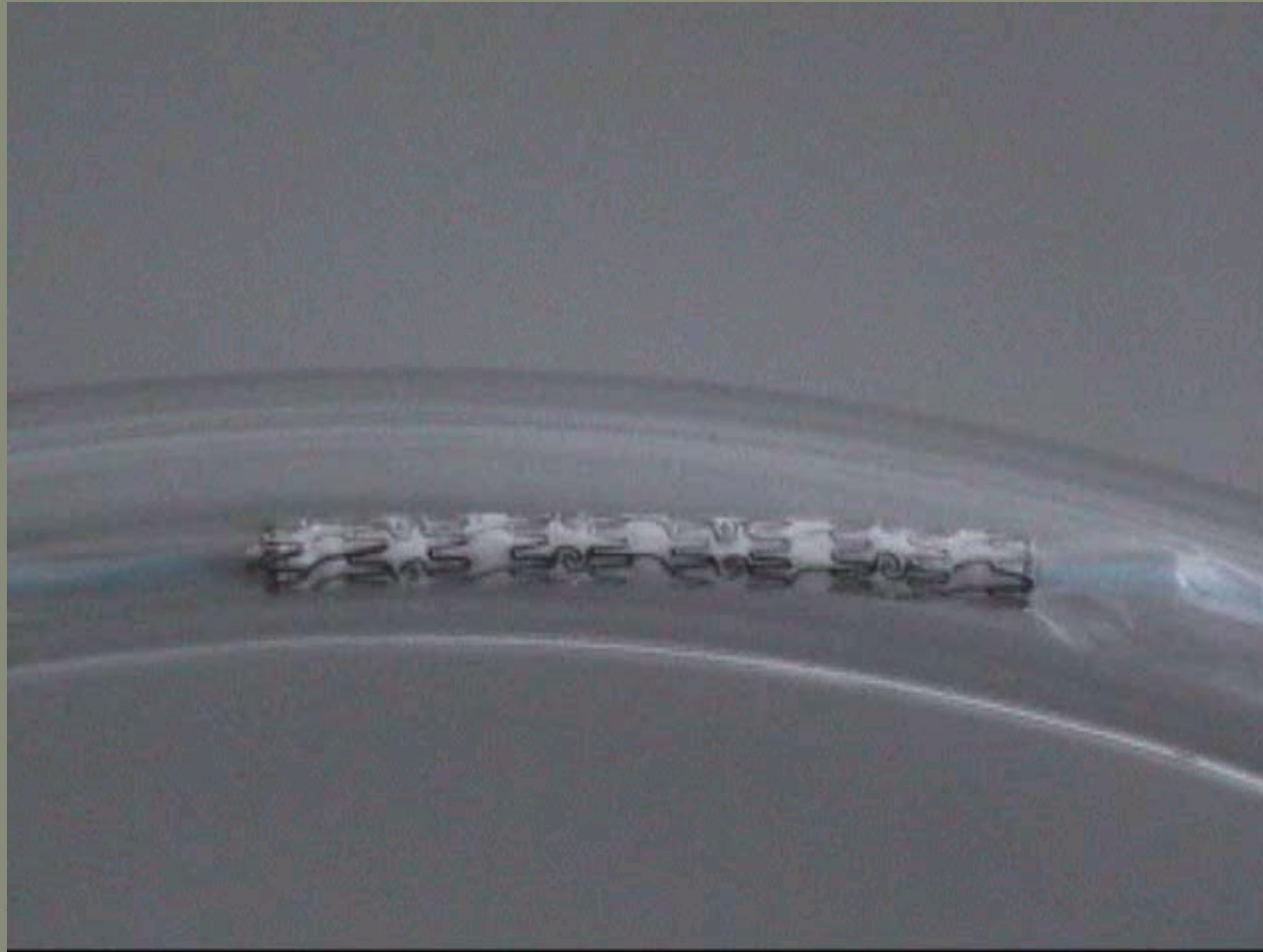
Tornado coil



Covered stent for Coronary perforation



Covered stent



*Complication related to
Retrograde approach for CTO*

Background of retrograde approach

N	376
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Re-try	270
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Unknown entry	86
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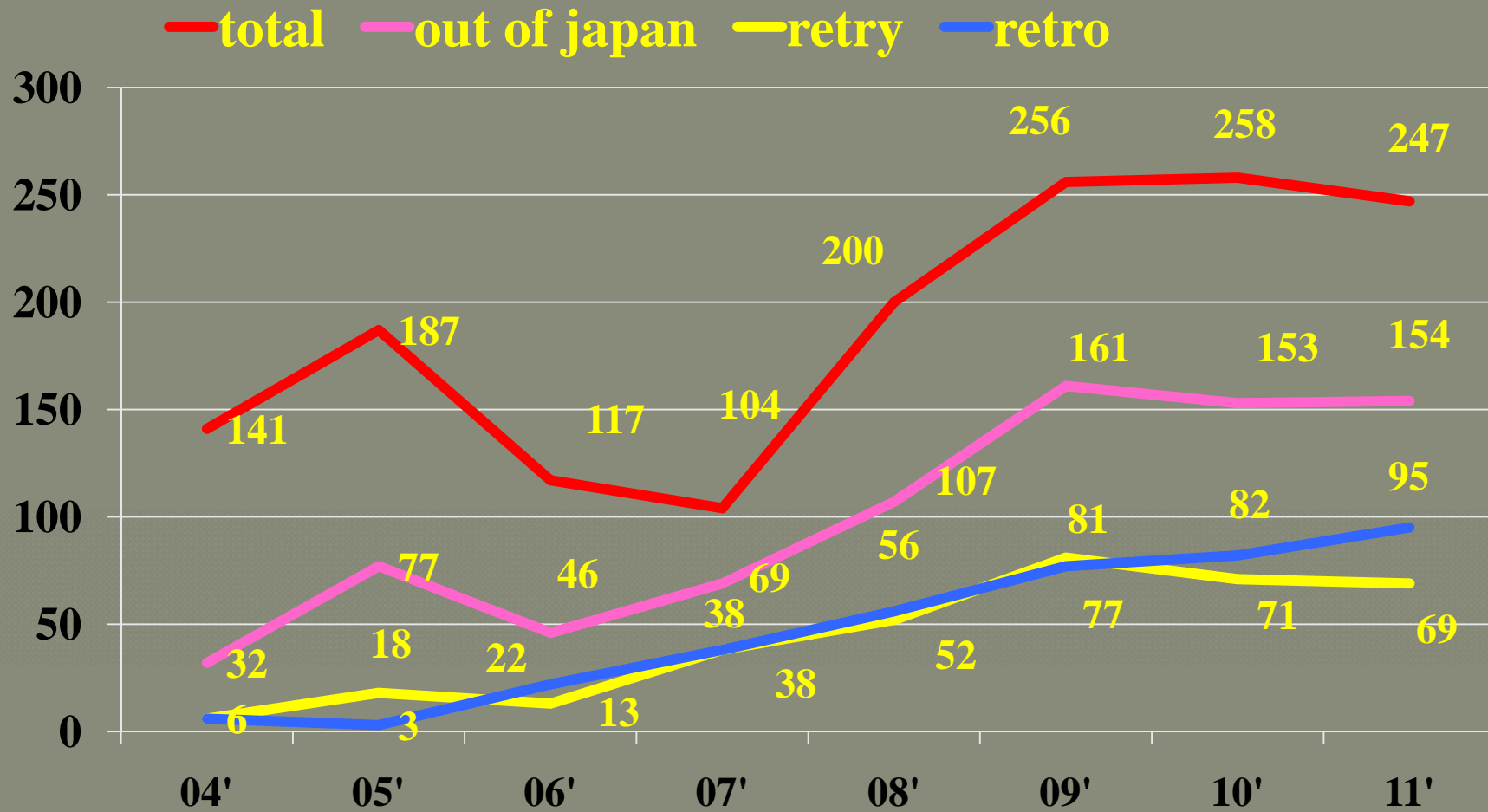
Abrupt	13
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Diffuse	7
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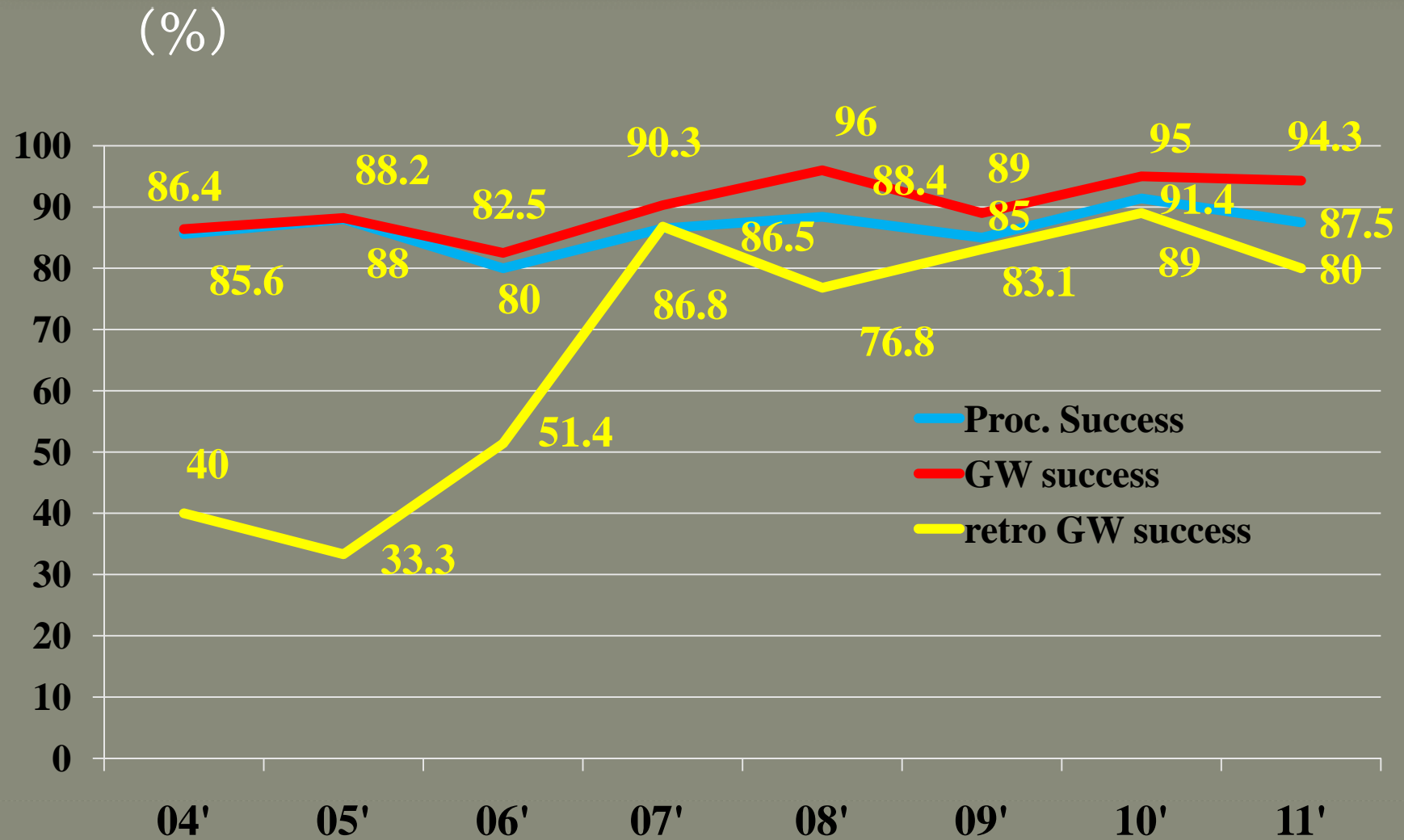
Septal channel	279
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Epicardial channel	97
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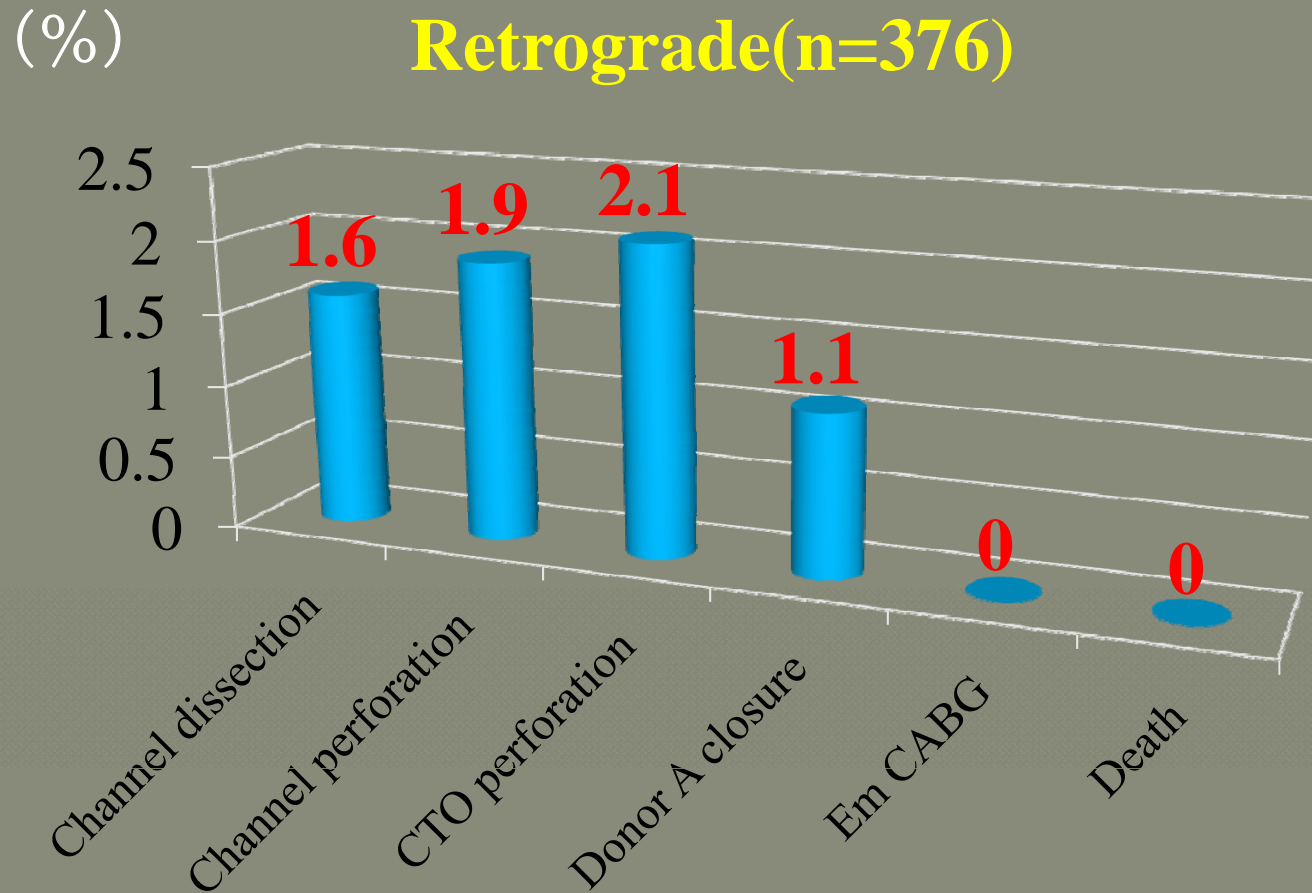
Number of CTO lesion



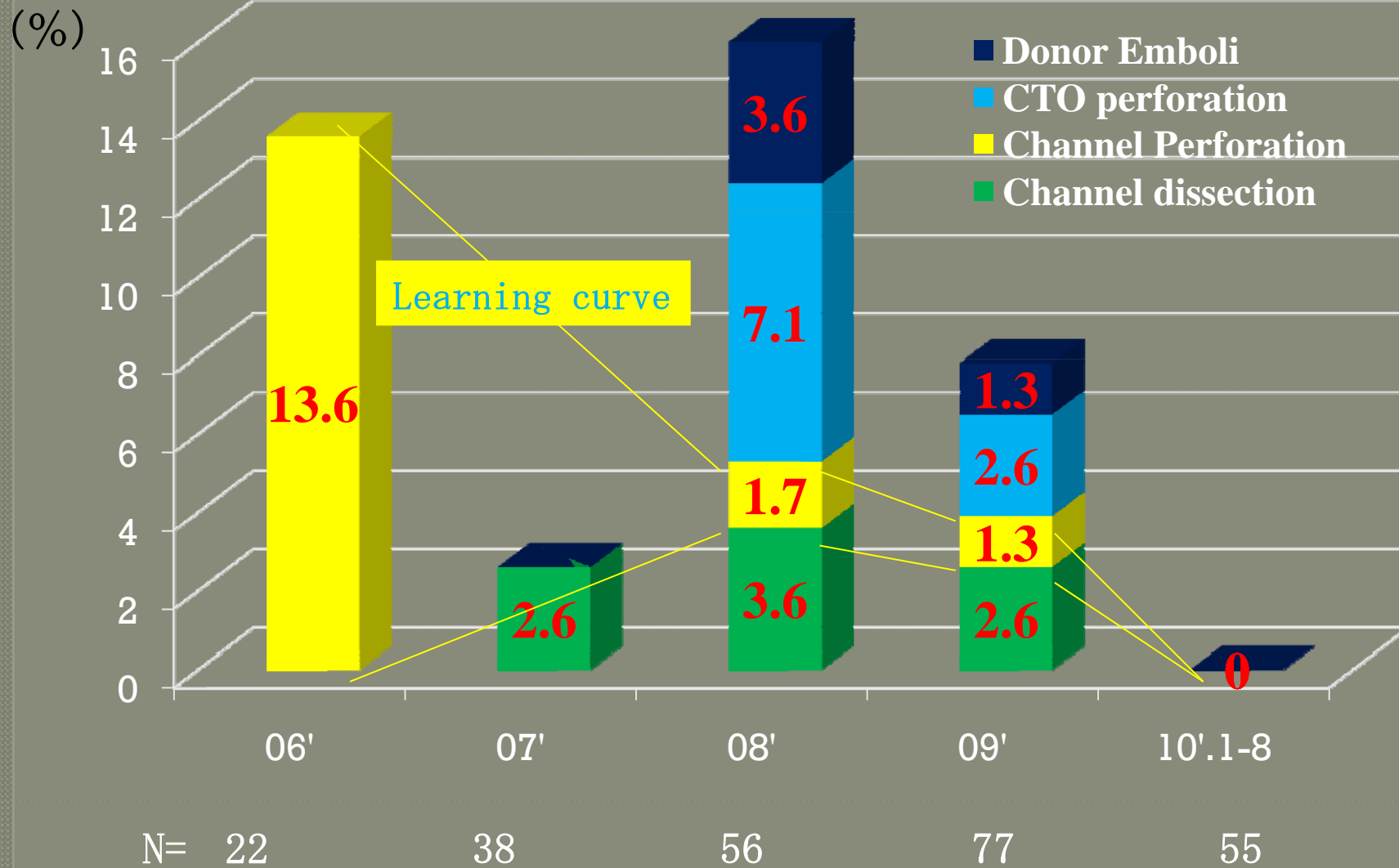
Success rate and retrograde approach for CTO



Complication of retrograde approach for CTO



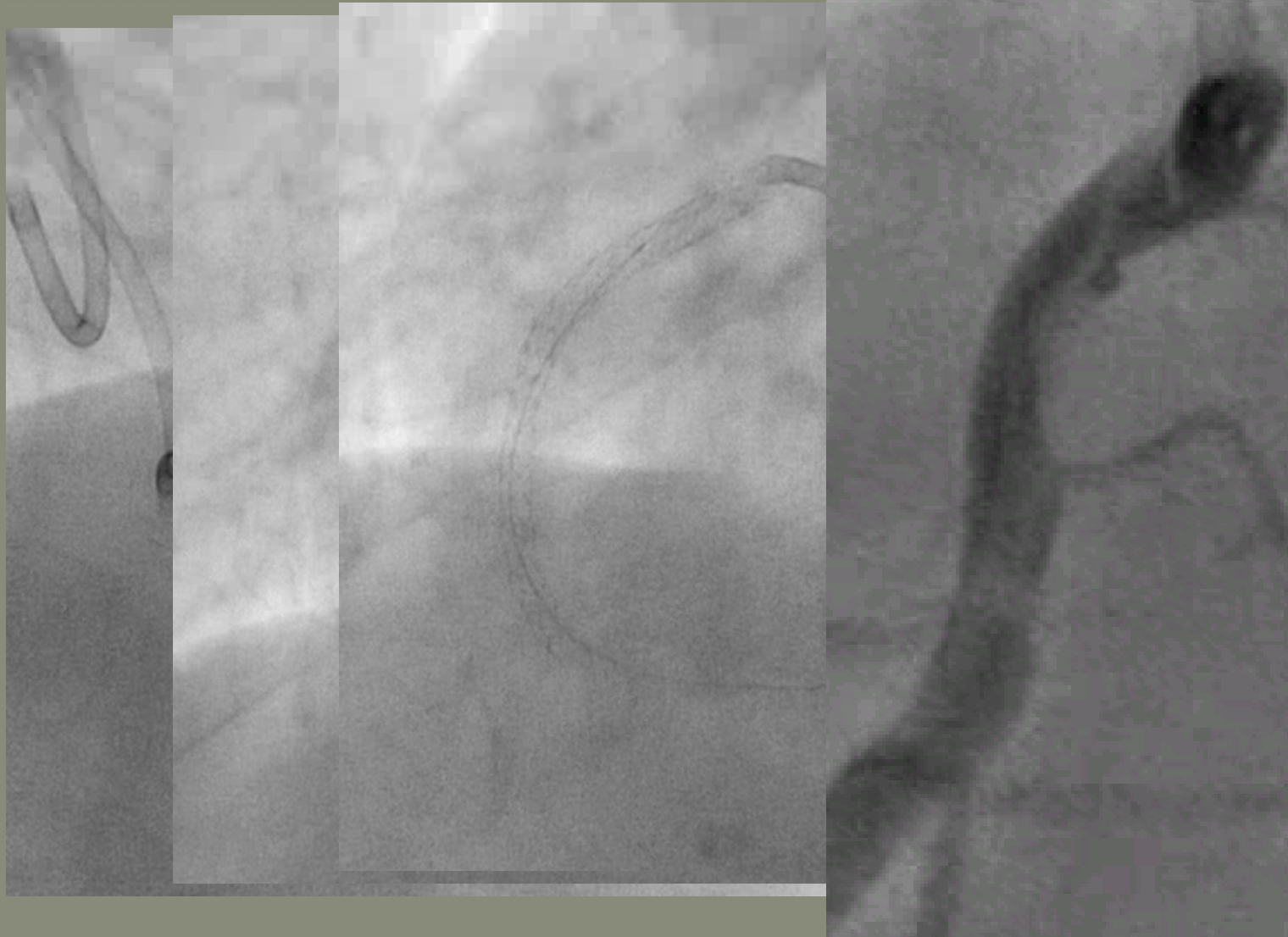
Complication of retrograde approach for CTO



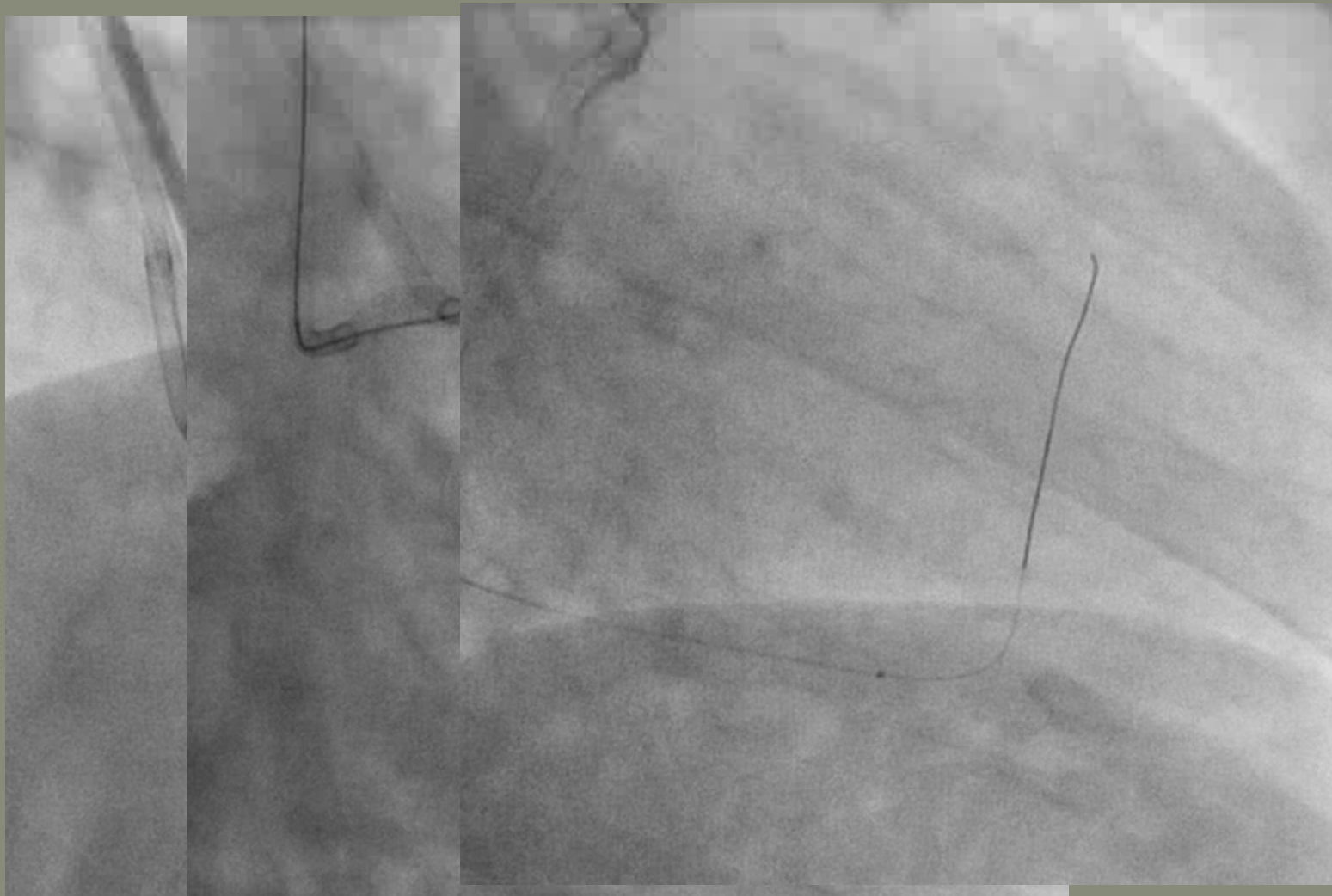
Complication related retrograde approach

- **Donor artery ischemia, spasm or thrombosis**
- **Channel dissection**
- **Channel rupture**
- **Entrapment of retrograde guidewire**
- **Guidewire, balloon kink through collateral channel**

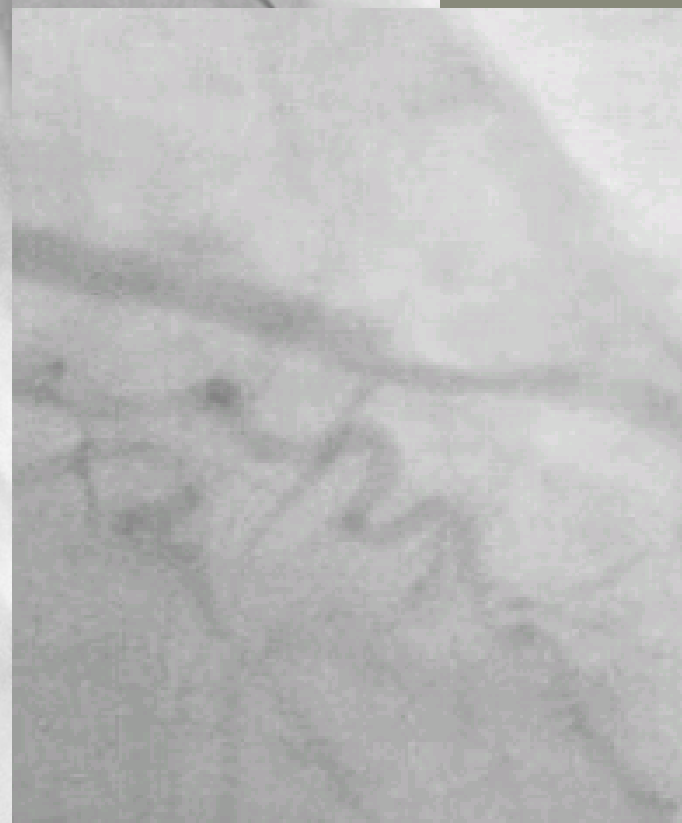
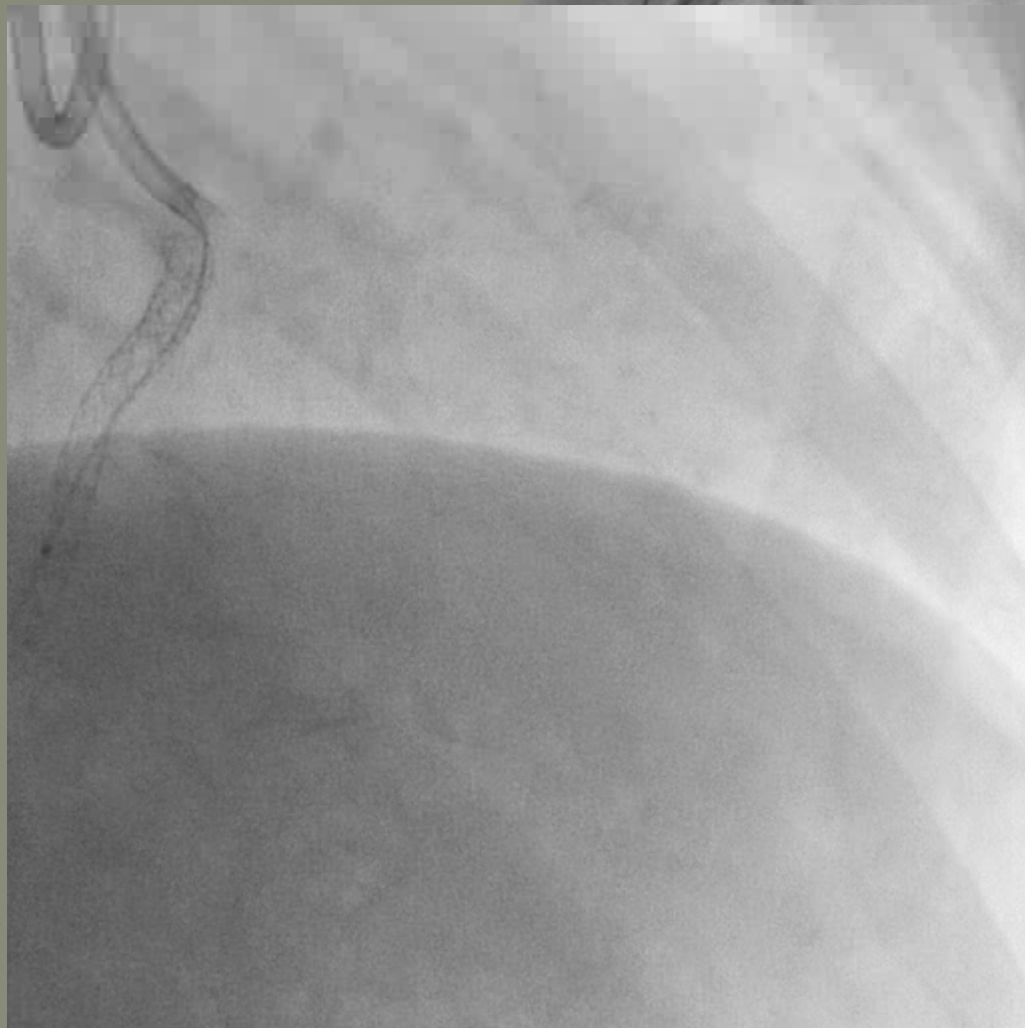
Case 1 : Guiding dissection of donor artery



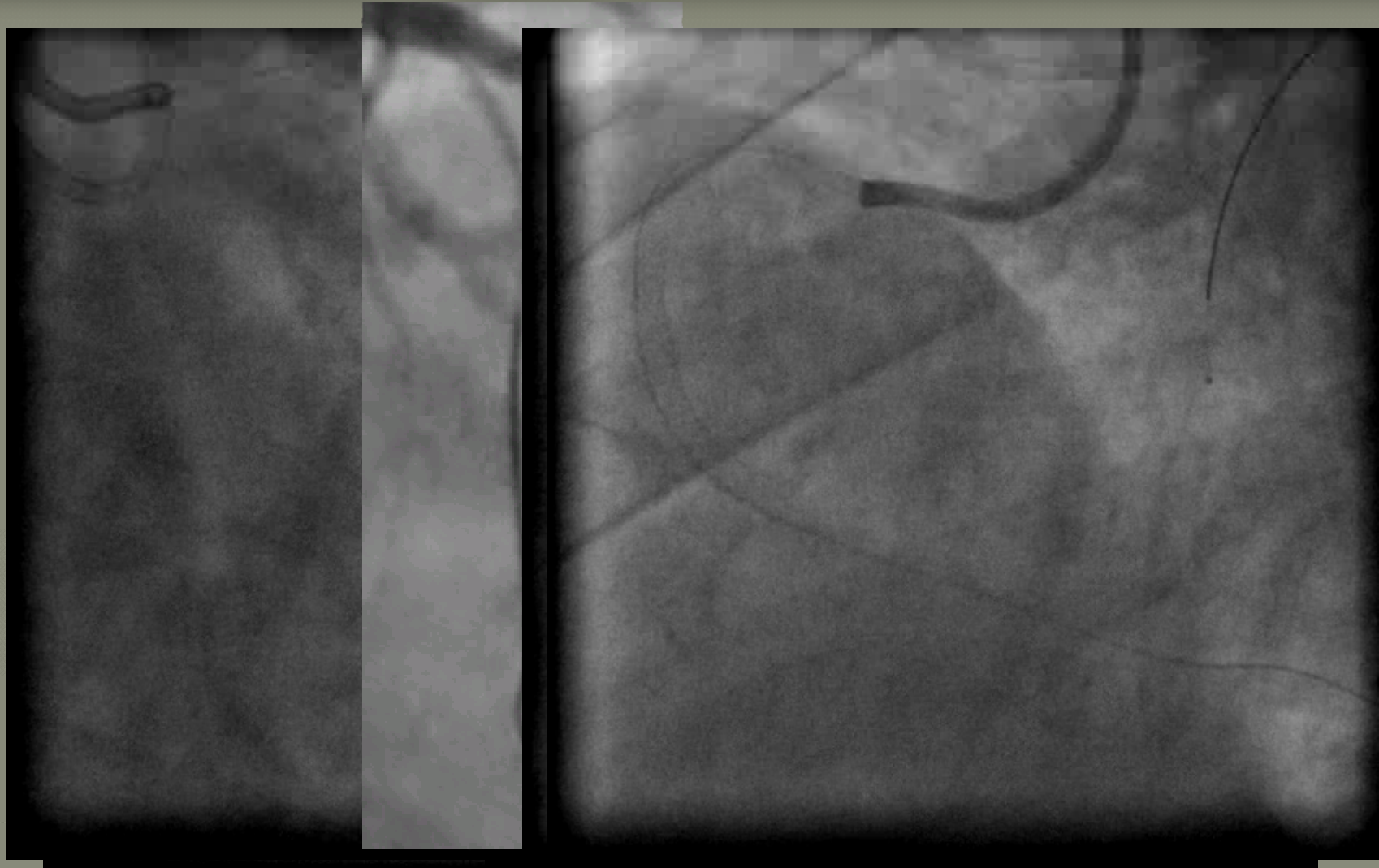
PCI for LAD



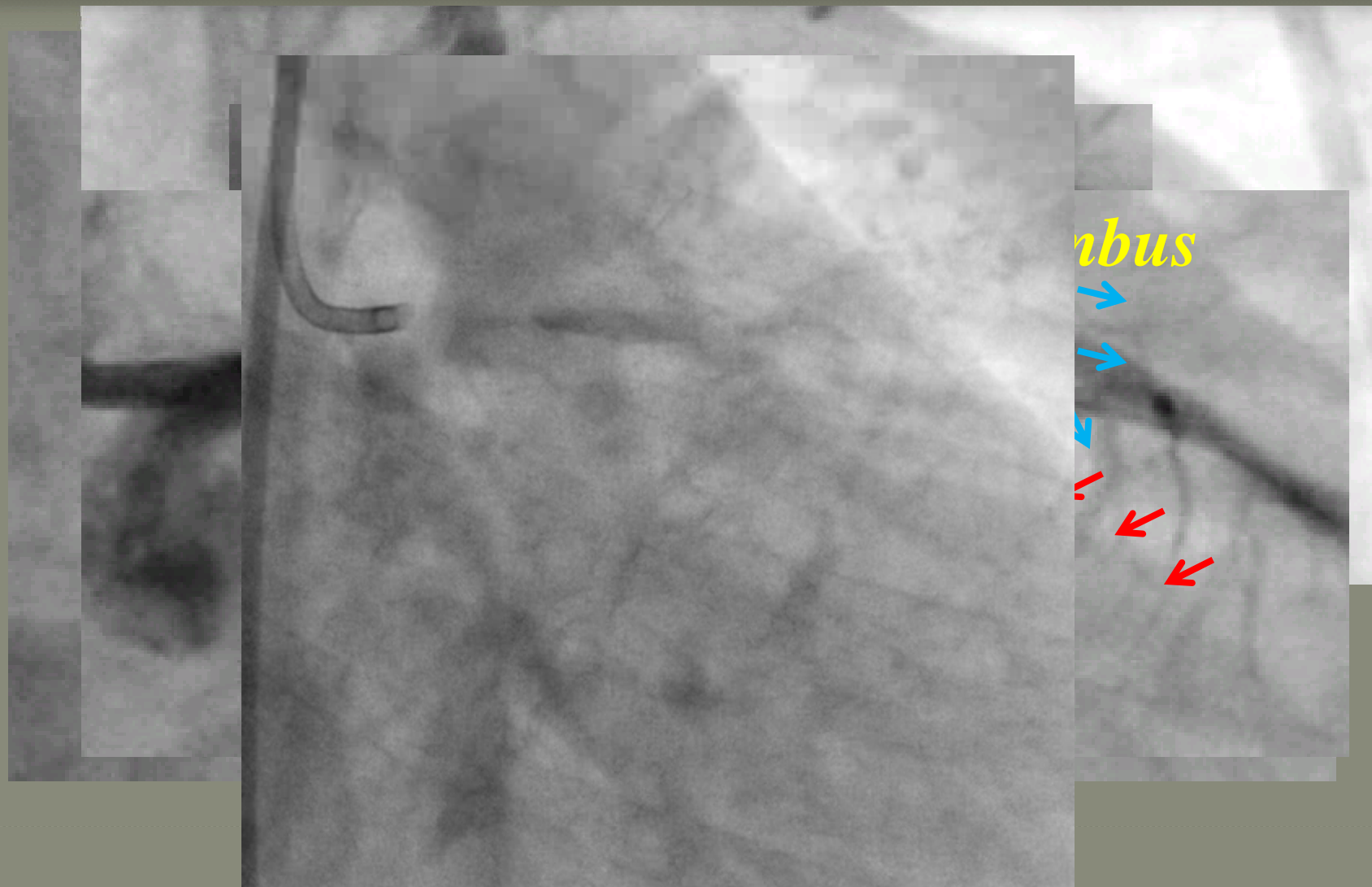
2nd PCI for LAD -retrograde-



Case 2: Septal channel perforation



Case 3: LMT thrombus during Retro



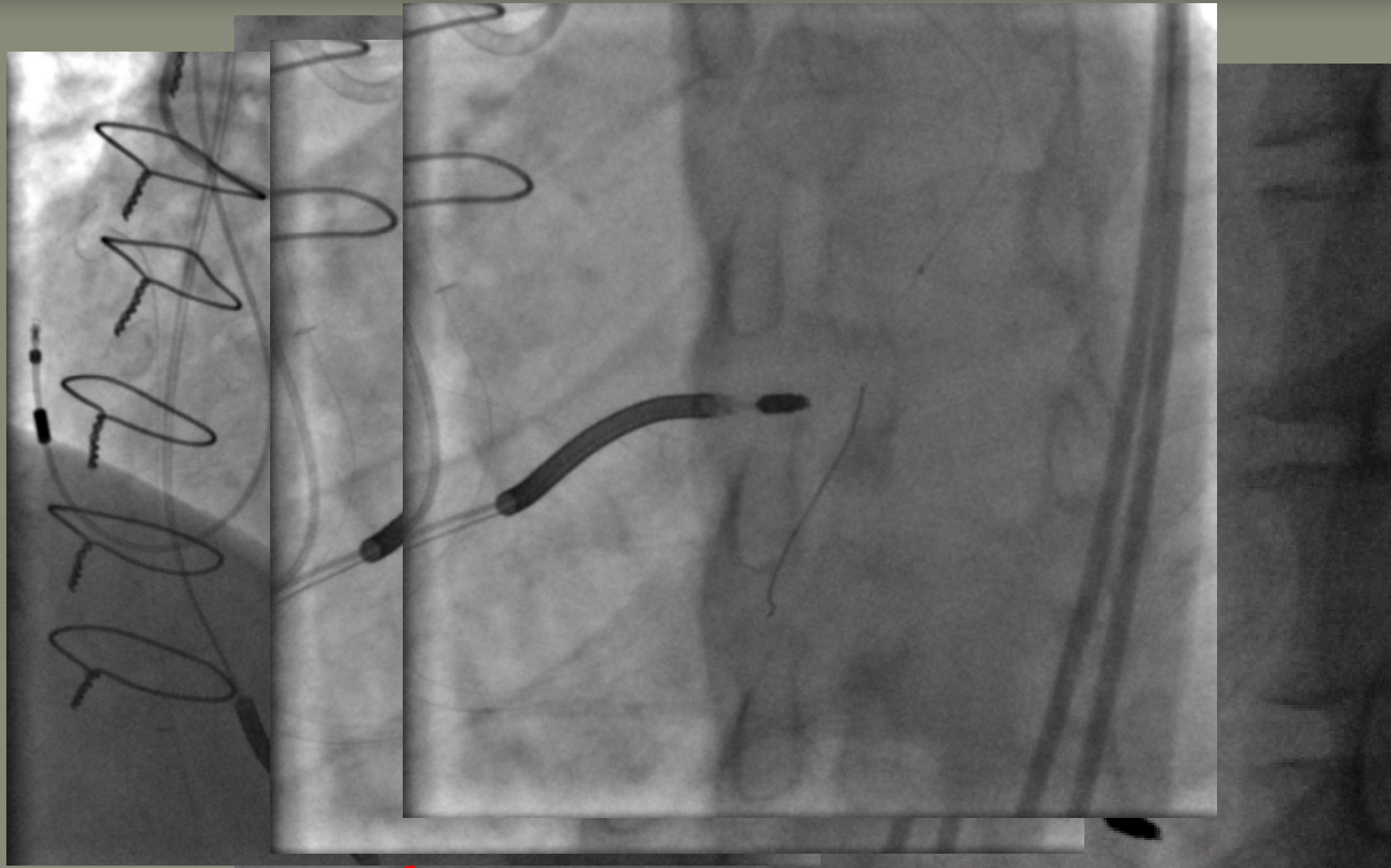
Case 4: RCA perforation after Retro-Wiring



Case 5: Dissection by Tortuous channel



Case 6: GW break in tortuous channel



Case 7: RetroGW into mid CTO site



Conclusion

- *Channel dissection and perforation are common complication for CTO, but reduced by experiences.*
- *Donor artery ischemia makes serious complications for retrograde approach.*
- *Channel perforation can stoped by embolization.*
- *Some unexpected complication may happen during retrograde approach.*
- *Carefully general management will be needed for retrograde approach.*