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Unexpected shock after elective PCI

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Case

75 yo. Woman

- Allergy to contrast medium, Hypertension, Dyslipidaemia, AF

History:

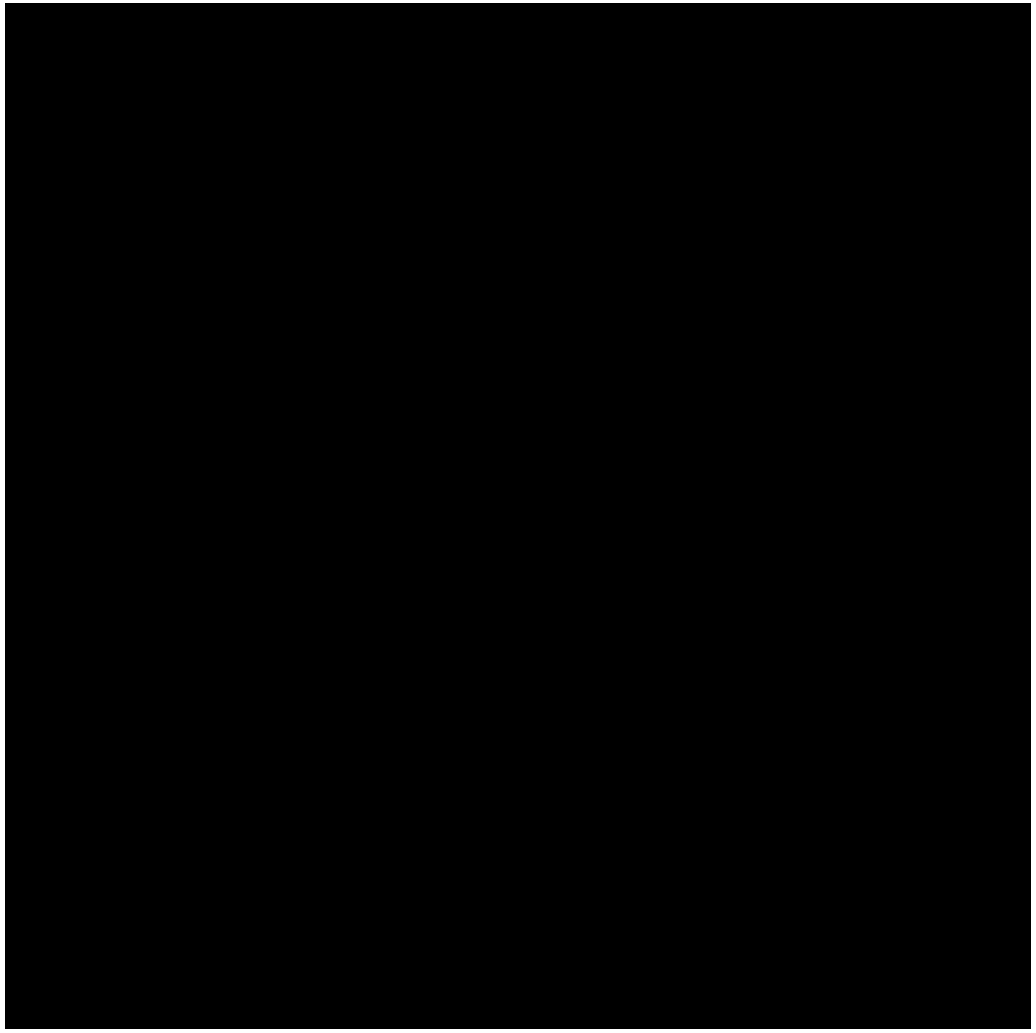
1998 M.I.
1999 CABG LIMA to LAD SVG to Diagonal. Preserved EF
2010 Angina, PCI to distal Circumflex
2012-2014 Angina, Spect non to minimal ischemia. Medical treatment
2017 Angina class III Canadian

Treatment: Rivaroxaban, Ramipril, Atenolol, NTG, Amlodipin, Atorvastatin

Schedule for angiography, premedication for allergy. One day before, stoped Rivaroxaban.

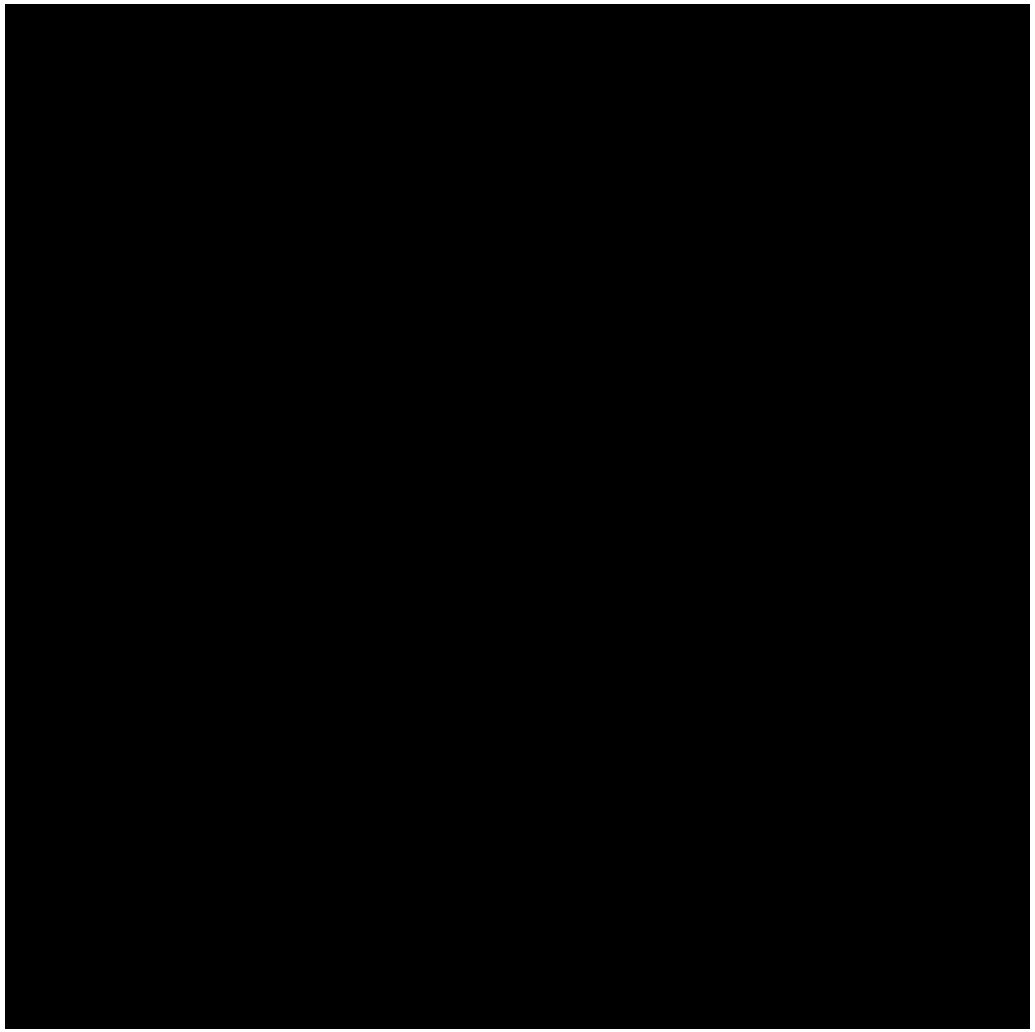
Angiogram

- Radial access 5F.
- LM, LCx and RCA without significant lesions.
- LIMA to LAD no lesions, native LAD occluded proximal and distal to graft.
- SVG severe lesion at the middle part, calcified and eccentric. Distal Diagonal without significant lesions.
- Tortuos path of the catheter



Initial approach

- Cross over to femoral access. 6F AL II.
- UFH IV 100U/Kg.
- Whisper ES wire distal.
- Multiple attempts to balloon angioplasty, failed to cross. Not even with support of guideliner.

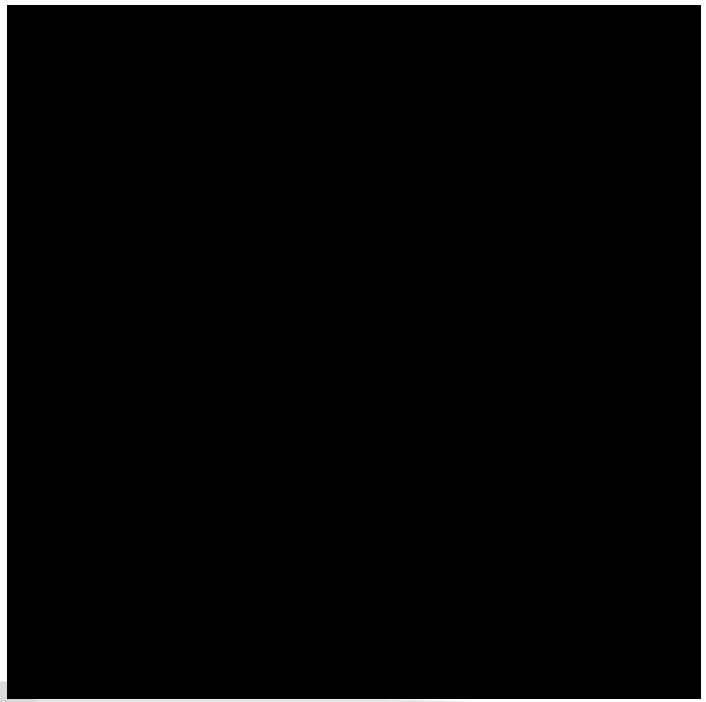


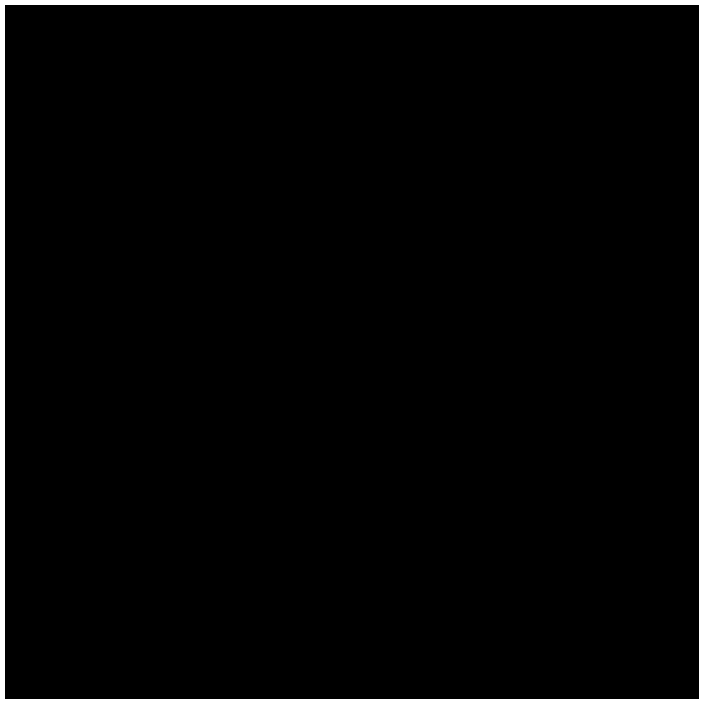
Q1. Rotational atherectomy?

a. Yes
b. No
c. No opinion

Strategy

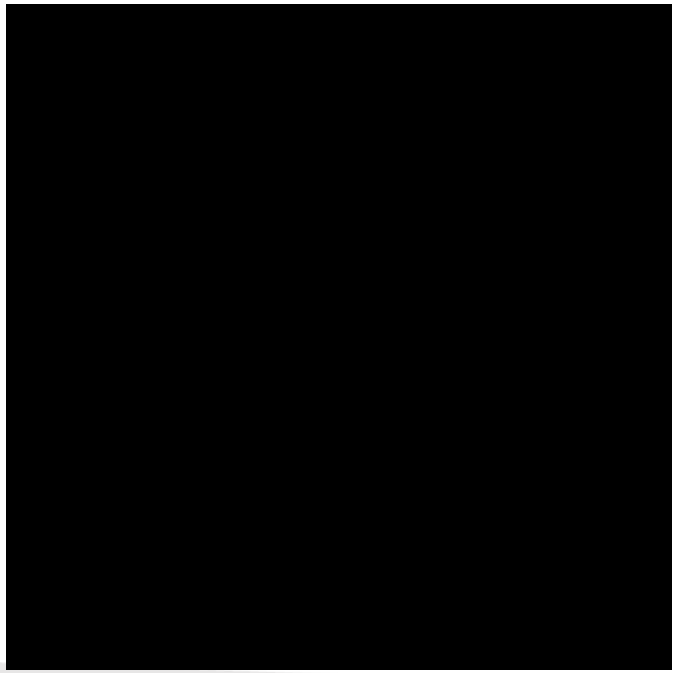
- Decided rotablation with 1.5 burr. Successfully.
- Whisper ES wire distal, balloon angioplasty and eventually SES 4.0x16 is implanted.
- Post dilated with NC. Good angiographic result.
- 3.5 hrs procedure.

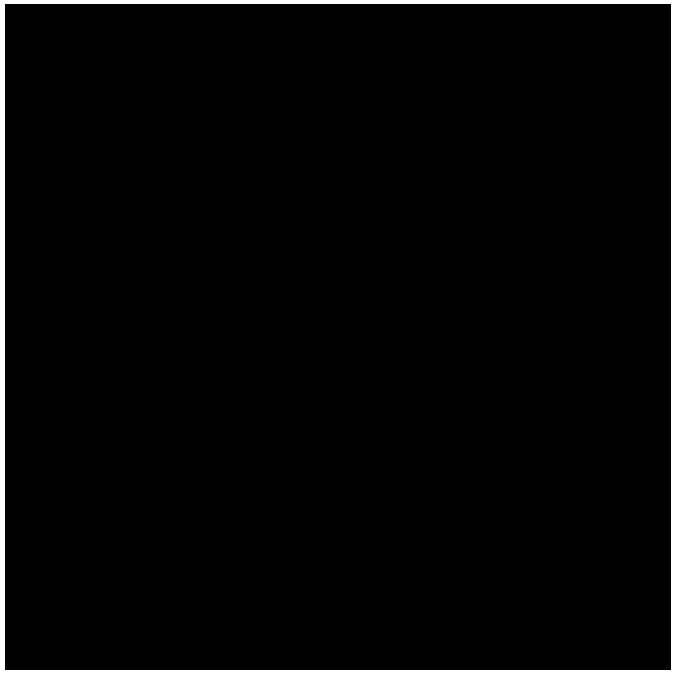




Following events

- 1 hr after chest discomfort, subtle ECG changes, laterally.
- Emergent angiogram: stent well opposed, TIMI 3 flow.
- Hypotensive, no tachycardia. Progress to shock unresponsive to fluids.
- Bed side echo: small pericardial effusion, no compression of right chambers, no Mitral flow variations.





Q 2. What is the cause of this?

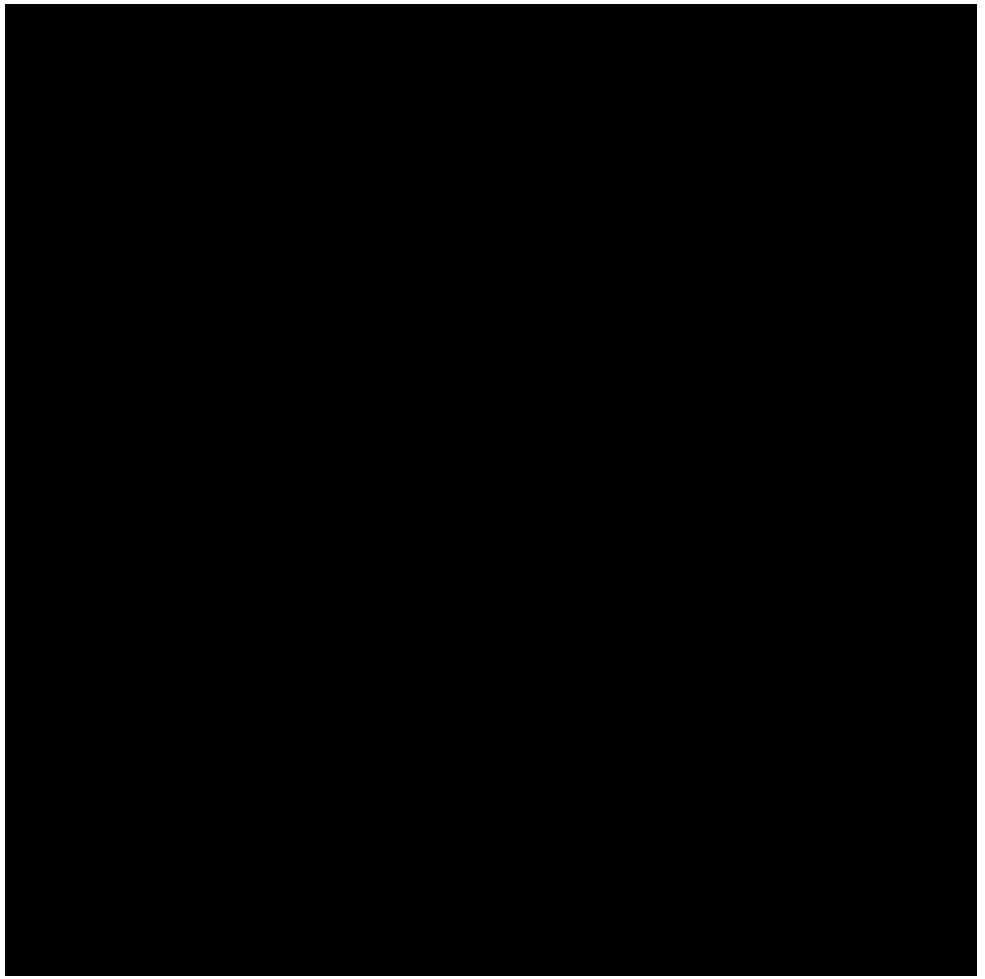
a. Haemorragic shock due to effect NACO
b. Retroperitoneal active bleeding
c. Anaphylactic shock due to contrast media
d. Distal wire coronary perforation
e. Spontaneous occlusion of RCA

Q3. Diagnostic tool?

a. Abdominal CT scan
b. Body TAC
c. TEE
d. New angiogram

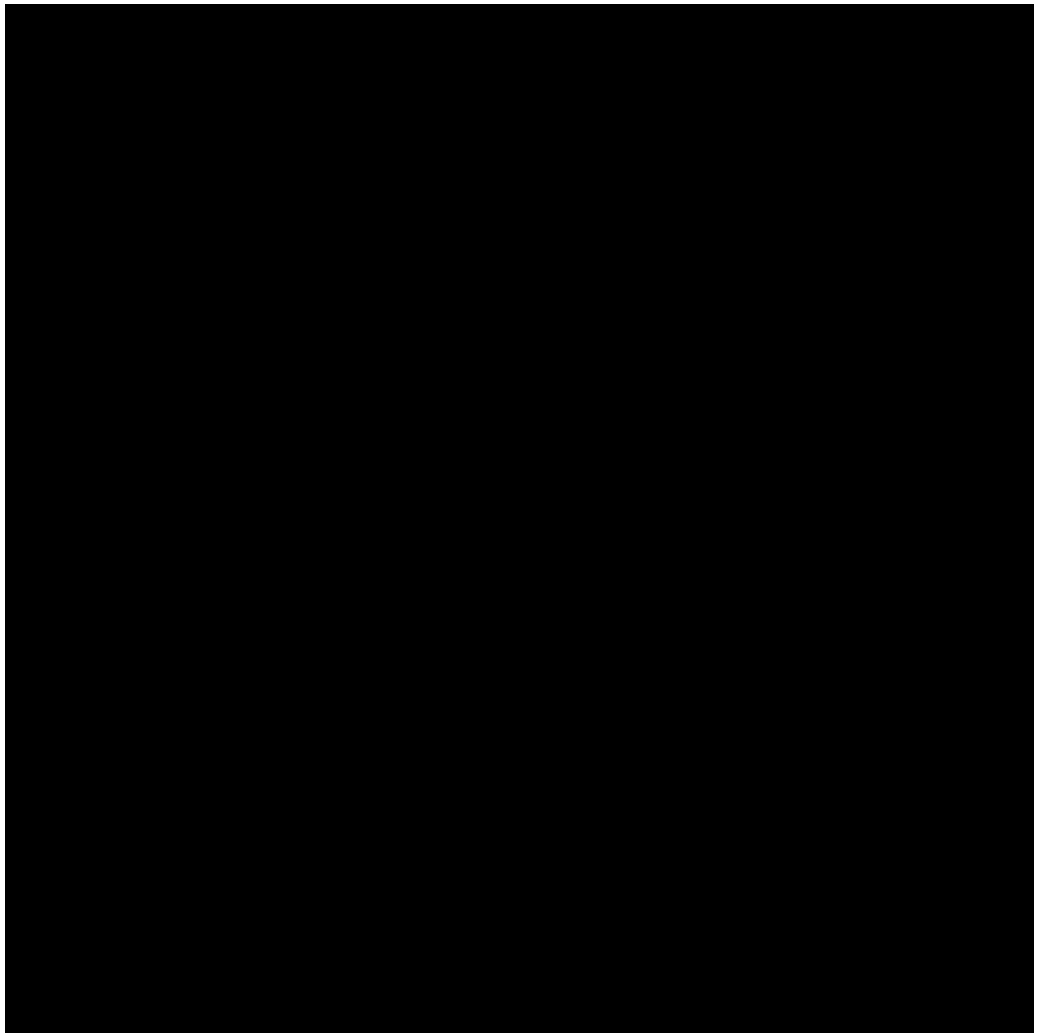
Action

- TAC: no retroperitoneal haemorrhage, active bleeding to the pericardium from the Diagonal
- Initially Noradrenalin IV, fluids: partial response.
- Eventually deteriorated, jugular ingurgitation now evident.
- Echo guided pericardiocentesis by apical approach, 60cc.



Action

- Angiogram revealed two distal perforation on secondary branches of Diagonal treated with coils, perforation sealed.



Final outcome

* 120cc more drained from pericardium during the following 48hrs, withdrawn on day 3.

* Kept on dual antiplatelet therapy.

* Renal failure and ischemic hepatitis resolved.

* EF at discharged 50%, no effusion.

* HS Tn 284 ng/dL

* Discharged: Rivaroxaban + Aspirin + Clopidogrel.

* Asymptomatic at 6 months follow up

Take home message

- Type V perforations may be unrecognized, high suspicion level must be kept in complex cases.
- Pericardial effusion in patients with history of CABG may provoke profound vagal responses as well as tamponade with small effusions due to stretching and diminish in diastolic compliance.
- Tamponade diagnosis is clinical but TEE may be key to confirm diagnosis and treatment.
- In case of doubt, CT scan may also be a diagnostic tool.
- Not all clinical and classical sings of tamponade may be present.
- Echo guide to apical pericardiocentesis is mandatory.