Post left main stenting sparkle in aorta

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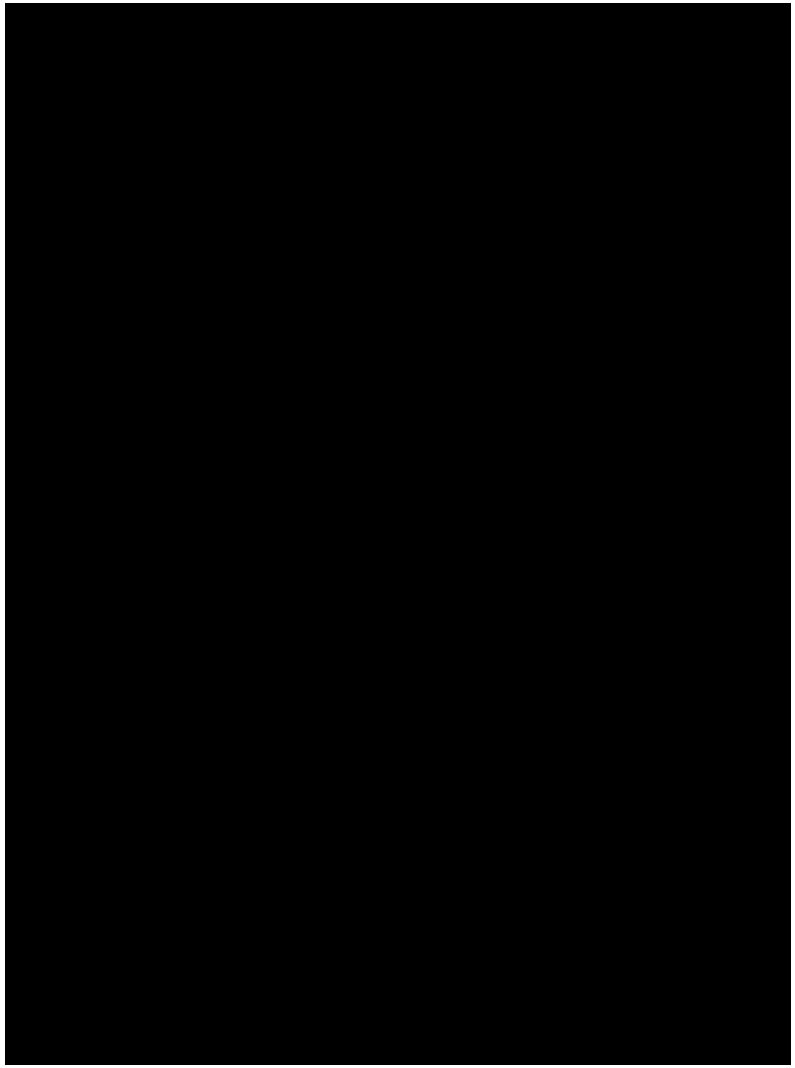
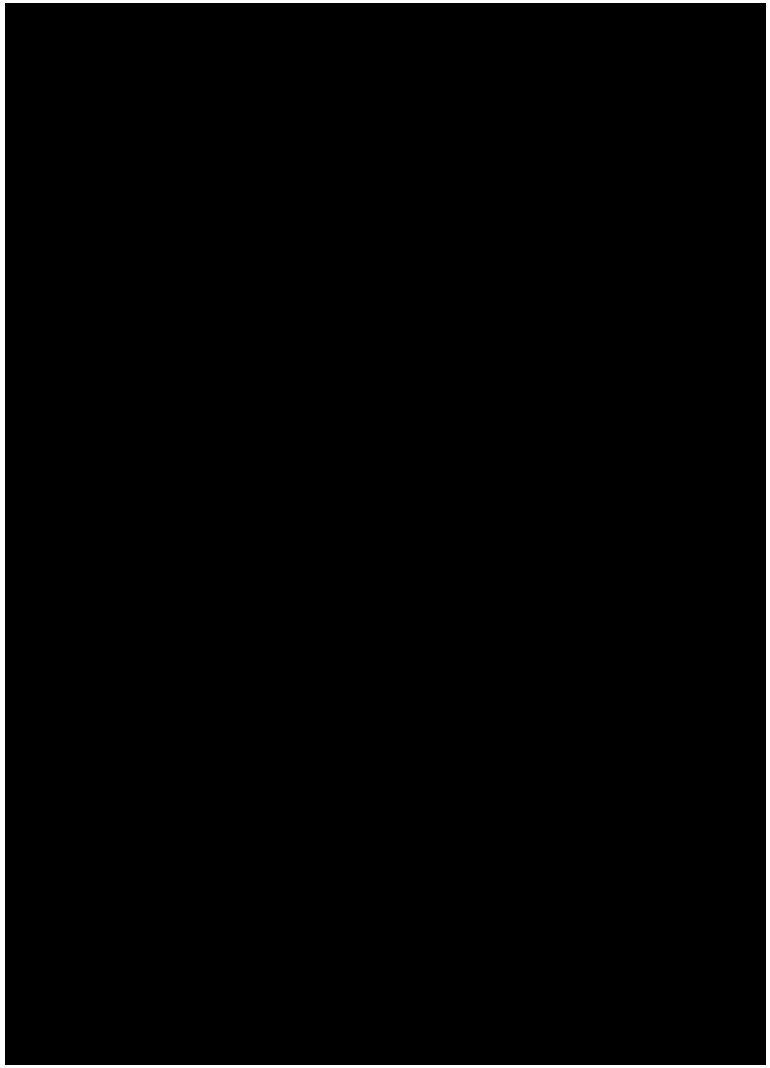
Clinical presentation

- A-32-year old female presented with severe anginal chest pain for two hours
- History of DM and HT
- ECG: Diffuse ST segment depression and ST elevation in aVR lead
- TTE revealed reduced LVEF (%25) with global hypokinesis and normal end diastolic diameters
- BP: 80/45mmHg HR :115/min
- She was diagnosed as very high risk acute coronary syndrome in cardiogenic shock

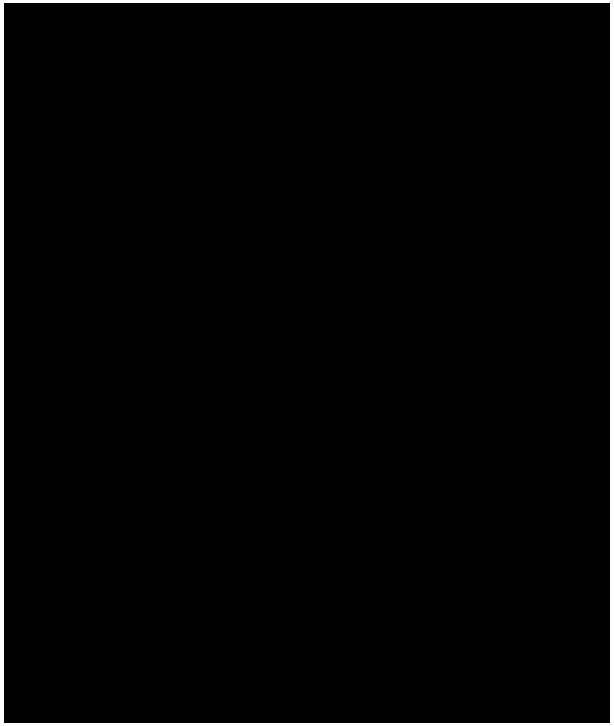
Diagnostic coronary angiography





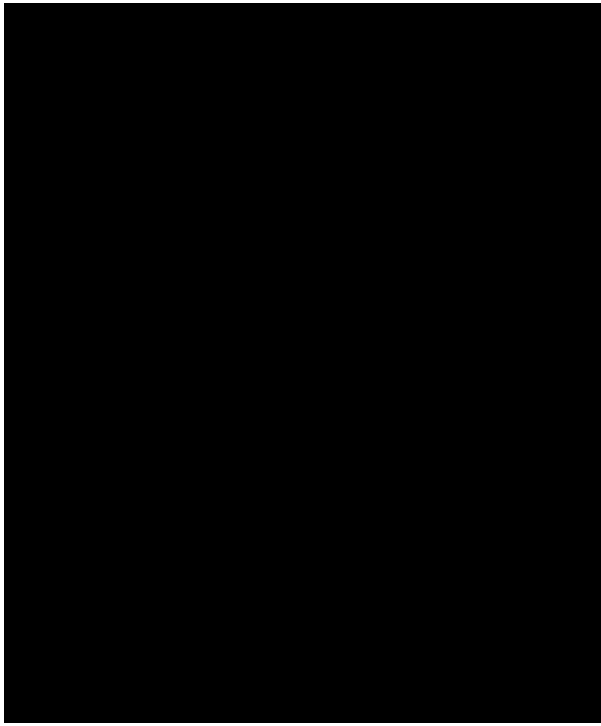
Resuscitation and ECMO

- During coronary angiography cardiopulmonary arrest was developed.
- Cardiopulmonary resuscitation was performed for 20 minutes and venoarterial ECMO was implanted



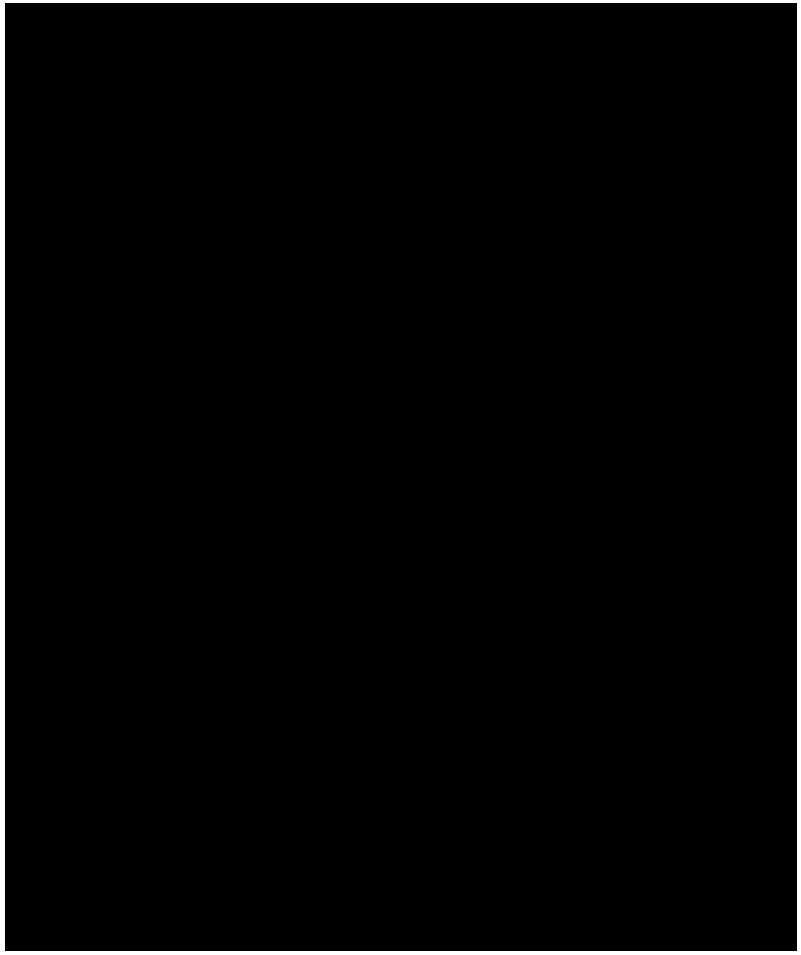
Citical left main lesion

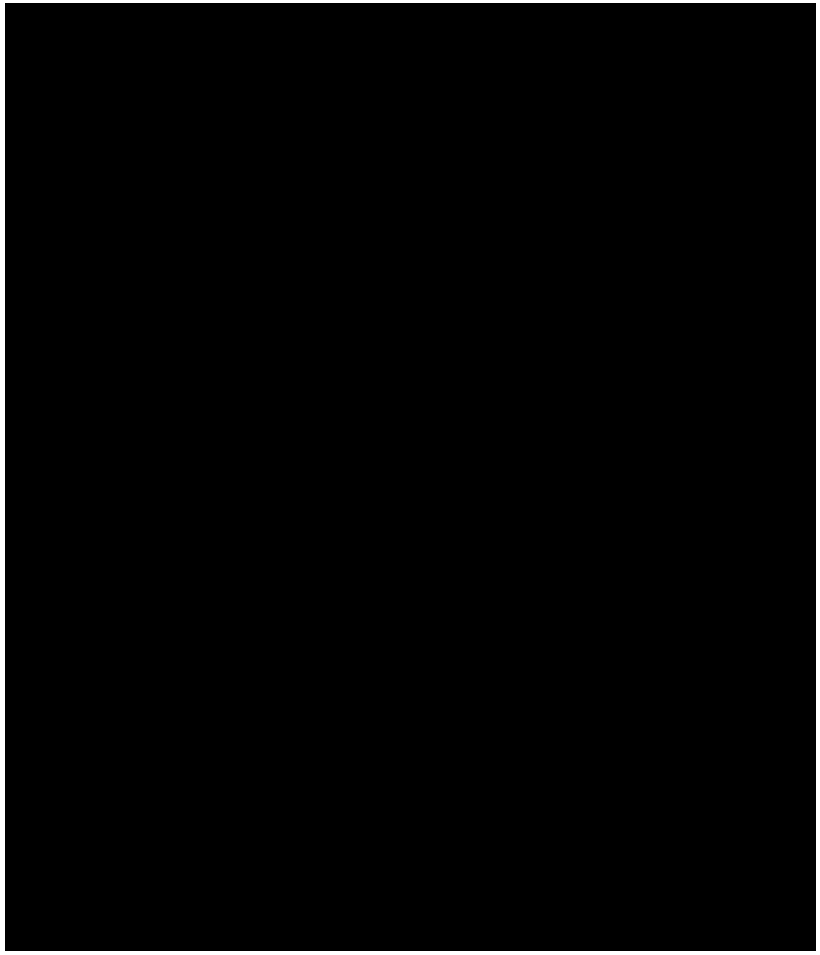
resistant to nitroglycerin



Optimizing 4.0x13 mm stent location while resuscitation is in progress

4.0x13 mm BMS, 4.5x10mm NC and final result

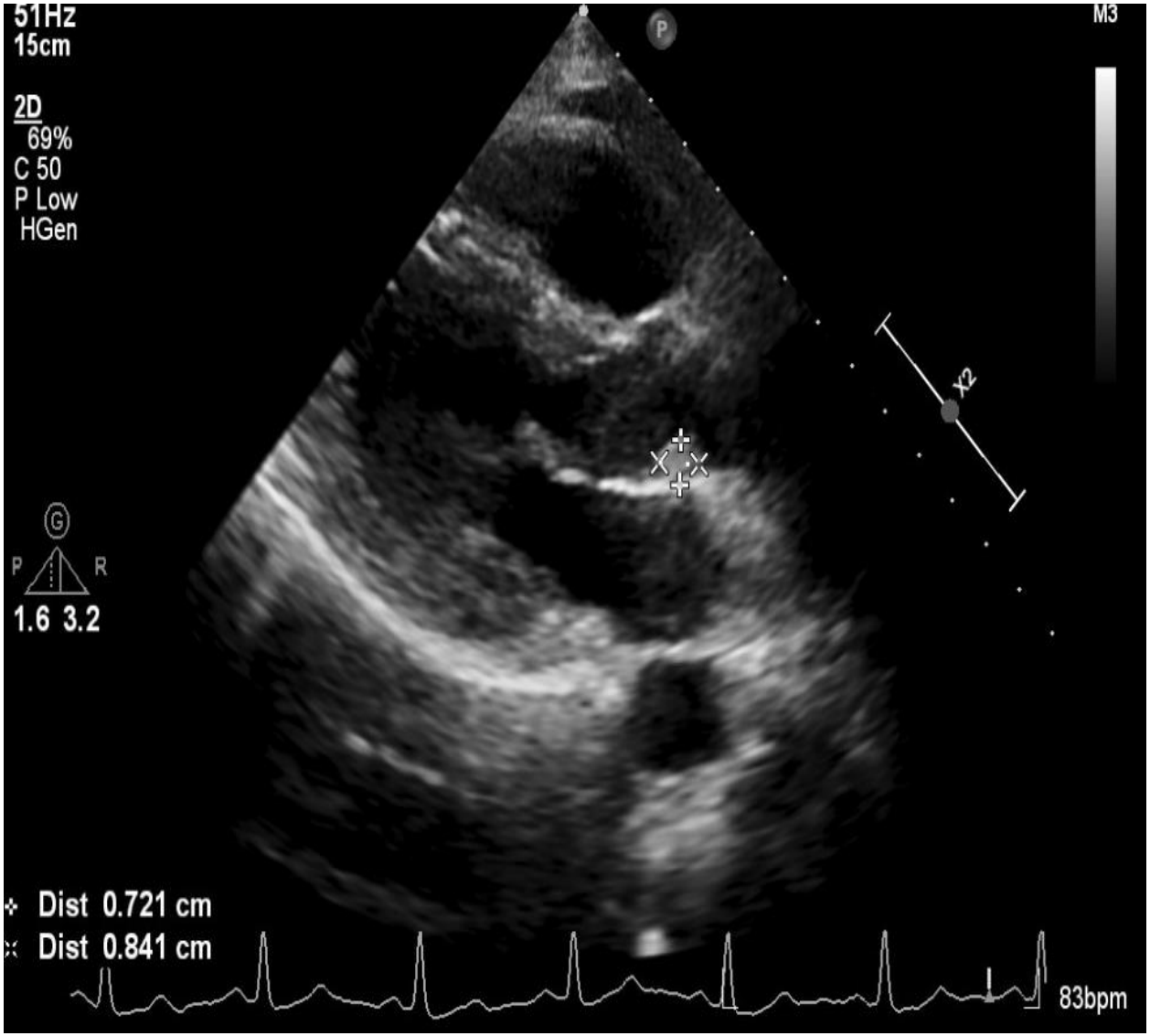




Clinical follow up

- The patient was extubated and ECMO device was removed surgically after 2 days of intensive care follow-up.
- The patient was free of chest pain and ECG was normalized.
- Normal LVEF was seen on bedside TTE soon after ECMO removal.
- The patient had persistent fever in the subsequent follow-up. Detailed TTE and TEE was planned to exclude possible infective endocarditis.

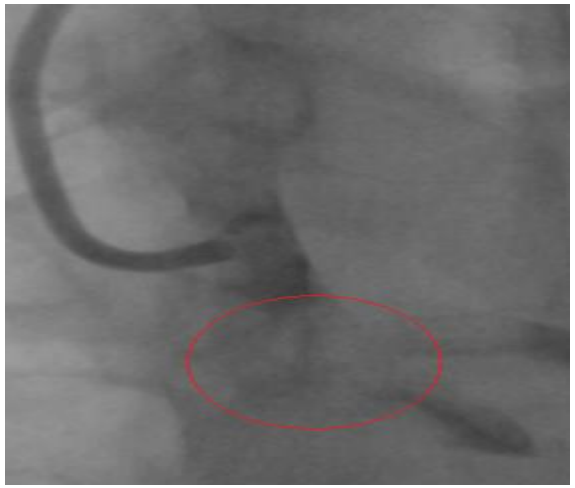
TTE&TEE



7x8mm, hyperechogenic sparkling image; vegatation???

TTE- 3D TTE

Control angiography

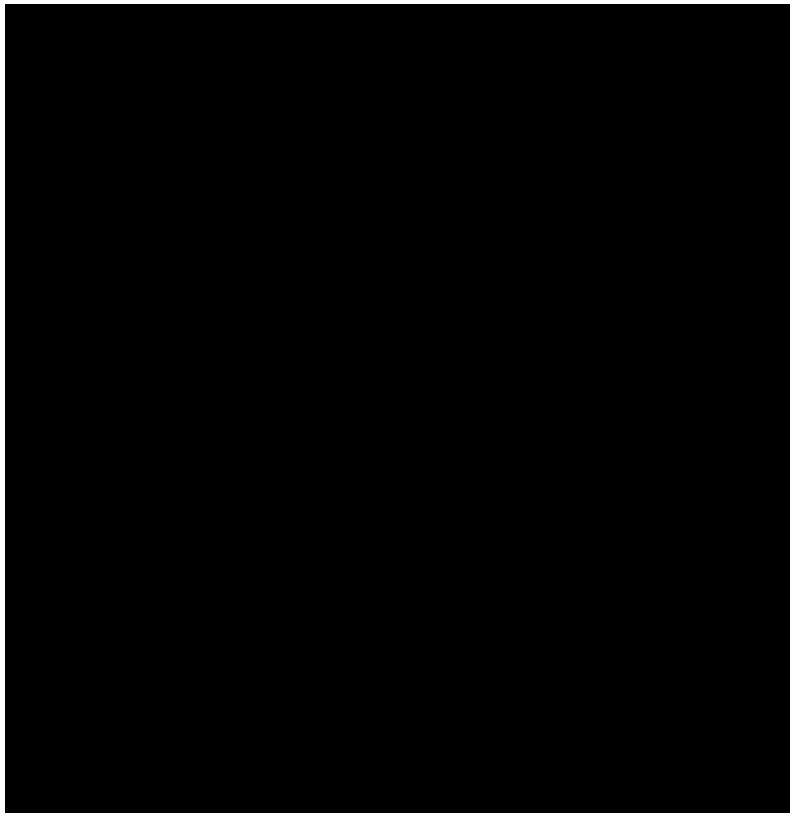


Control angiography revealed TIMI-3 flow in left main stent but close to 6mm protrusion of left main stent to ascending aorta

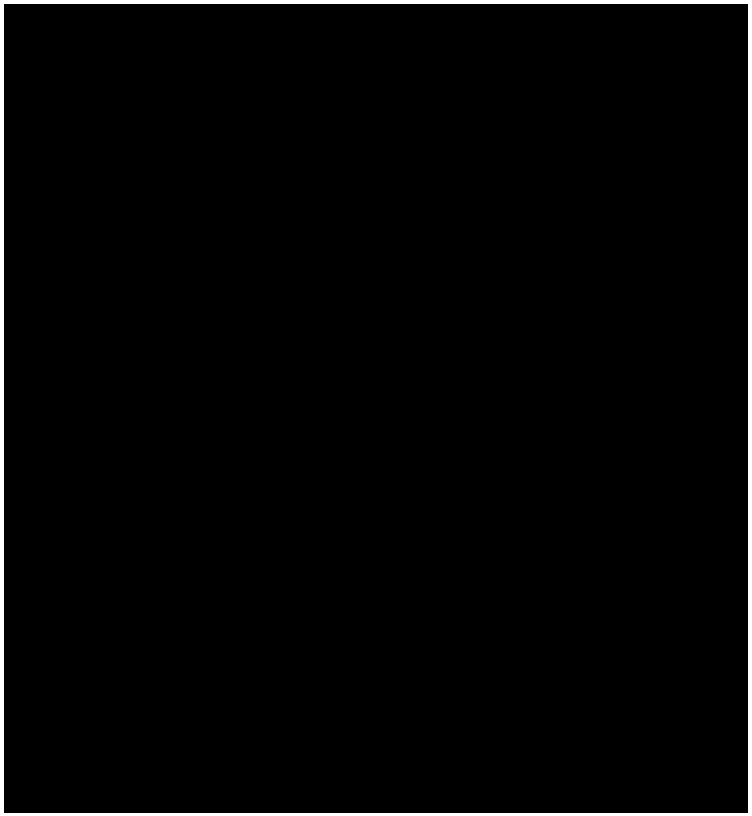
- No chest pain
- No ECG changes
- Normal LVEF
- No neurologic deficit despite 30 min resuscitation

- Significant protrusion(6mm)
- Young patient (32 years old)
- Need for re-intervention in follow up

20 days after stent implantation



•The left main stent was wired with a 0.014” guidewire through the side struts for guide and stent stabilization during retrieval.



•15 mm loop 6 Fr Amplatz Goose Neck Snare was successfully utilized to extract the deployed stent through another catheter via brachial access.

4.5x8mm BMS , 5.0x8mm non compliant balloon

Discussion

- Erroneously placing of stents usually occurs when treating an aorto-ostial lesion. The stent protrudes excessively into the aorta due to improper positioning. If the target vessel requires re-intervention this protrusion causes important technical problems. Reengagement attempts may crush the proximal part of the stent or, it may be impossible to perform reintervention. In such cases, it may be desirable to extract the malpositioned stent.
- Extraction of fully deployed stents has potential risk of endothelial injury ,dissection, perforation, avulsion or occlusion. Safety concerns are greater if stents have been in place for long time.
- Although there is a lot of data about retrieval of unexpanded and undeployed stents; the feasibility and safety of intentional extraction of fully deployed, but erroneously placed stents have not been well described. In a review about this topic , the aouthors stated 17 reports of complete extraction of fully deployed coronary stents in literature until April 2020. Only 4 of them were intentional and the 13 of them were unintentional (1).

1- Ragosta M, Boehm R, Shields M, Taylor AM. Intentional removal of erroneously deployed coronary stents: A case series and review of the literature. Catheter Cardiovasc Interv. 2020 Aug 31. doi: 10.1002/ccd.29256.

- Many devices have been used to retrieve intravascular objects including snares, grasping forceps, baskets, tip-deflecting wires, and pincher devices [2]. The use of gooseneck snares for this purpose has been frequently reported.
- Removal in the early post-stent period may have an important role in our success. This procedure should be used with great caution, particularly for stents implanted long time ago.
- It appears safe and feasible to intentionally extract a previously deployed, erroneously placed coronary stent protruding into the aorta allowing for successful treatment of the target artery.

2-Cheema JK, Shroff AR, Vidovich MI. Unintentional extraction of an endothelialized bare metal stent. Cardiovasc Revasc Med. 2013 May-Jun;14(3):187-90. doi: 10.1016/j.carrev.2012.12.009.