

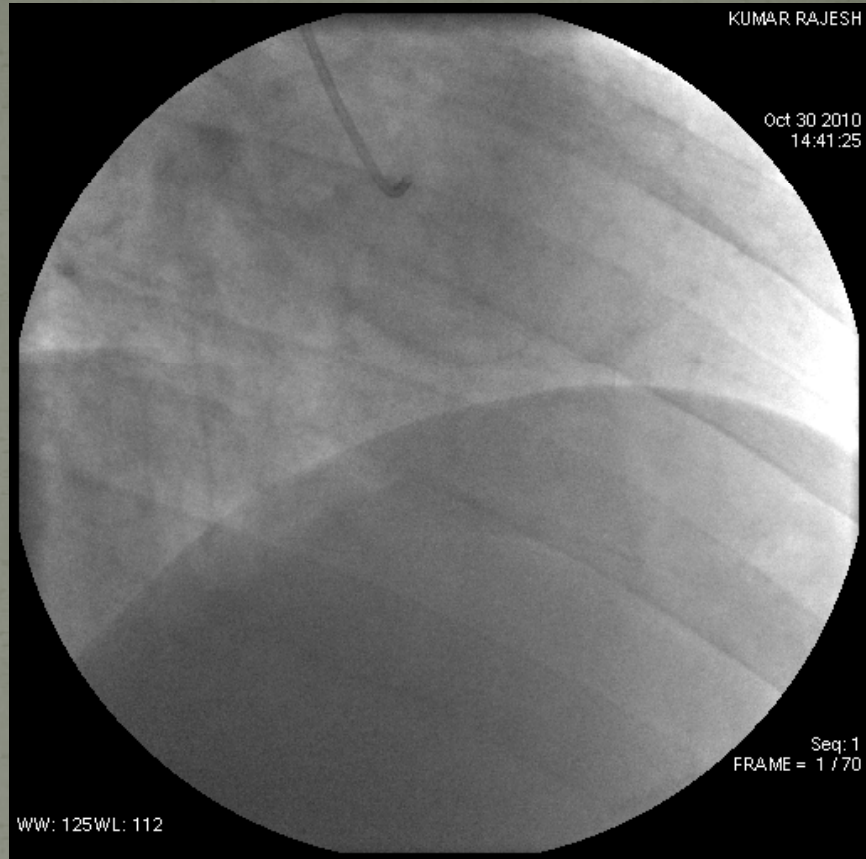
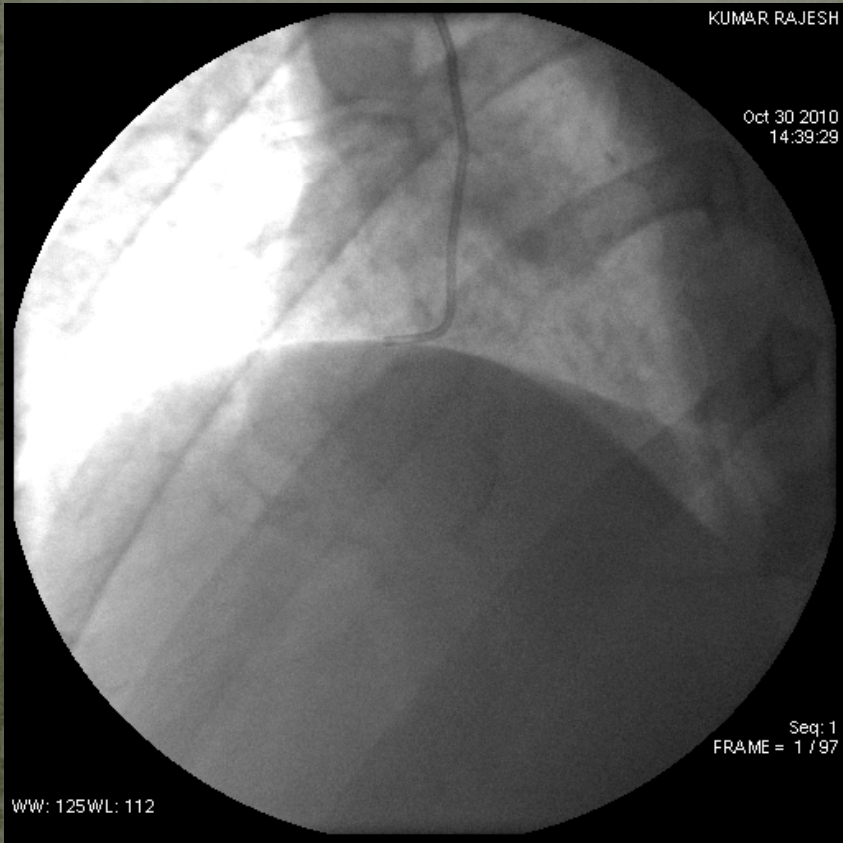
Coronary artery Dissection

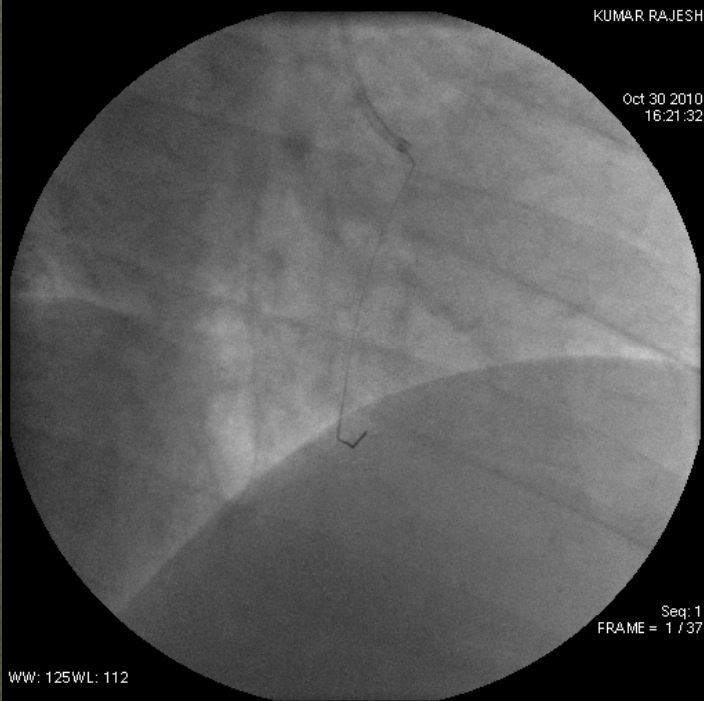
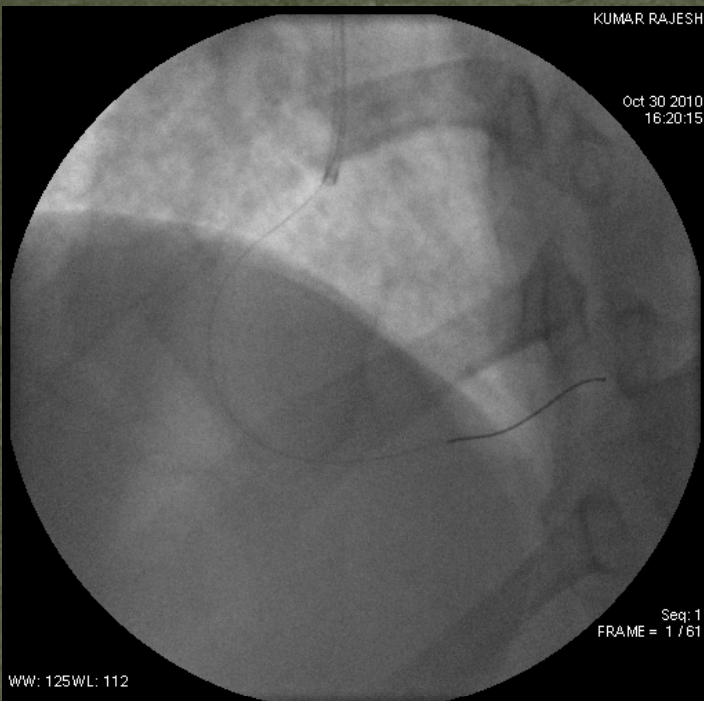
PCI to RCA complicated by Dissection

Dr TP Singh
MD,DM

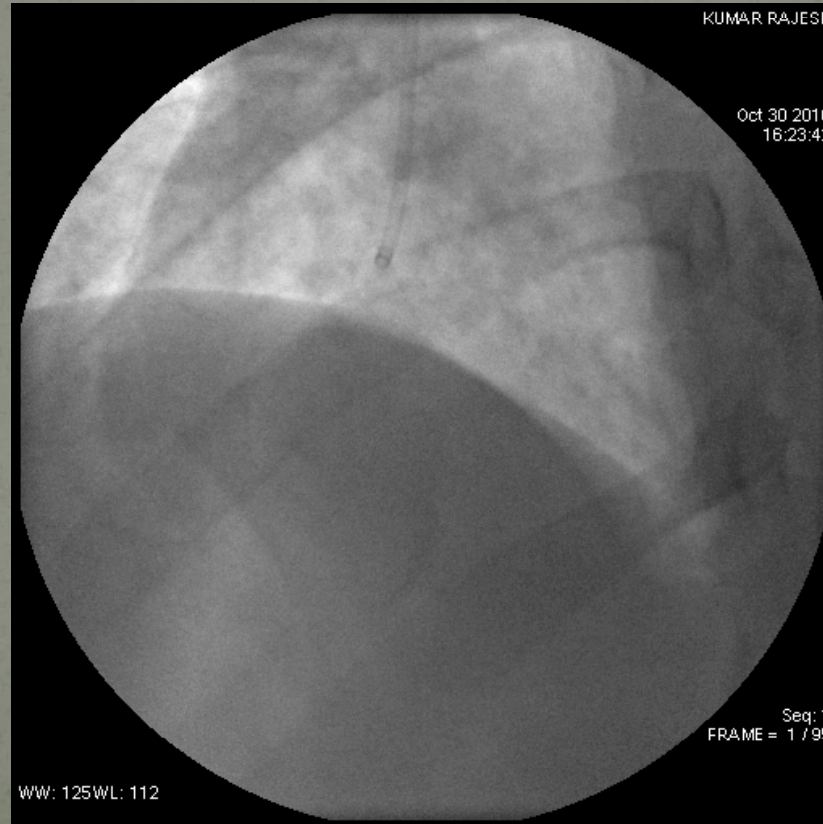
Case History

- 52 M, Non HT, Non DM, Acute IWMI lysed within 4 hours
- D2 Coronary angiography-RCA mid 90% discrete hazy stenosis
- LAD non significant disease, LCx Normal
- Taken for PCI to RCA

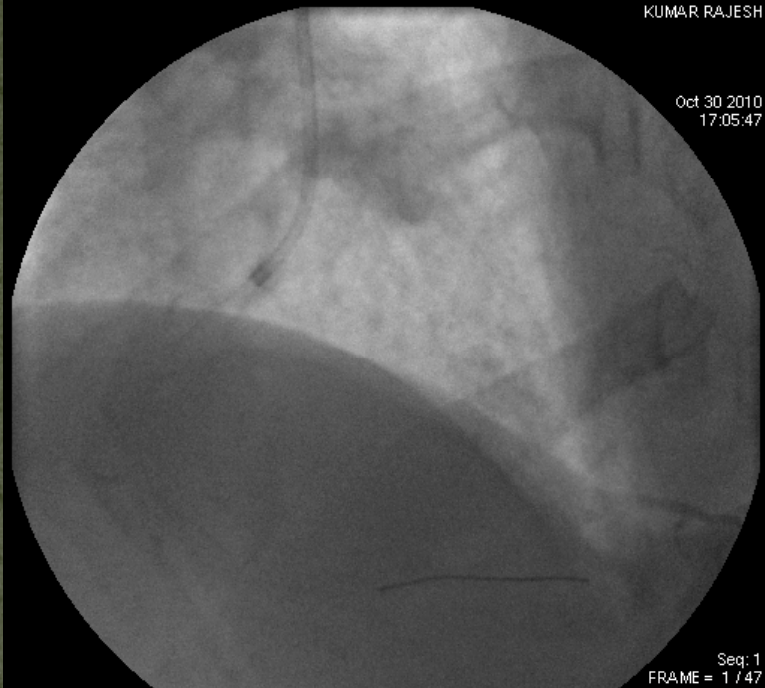




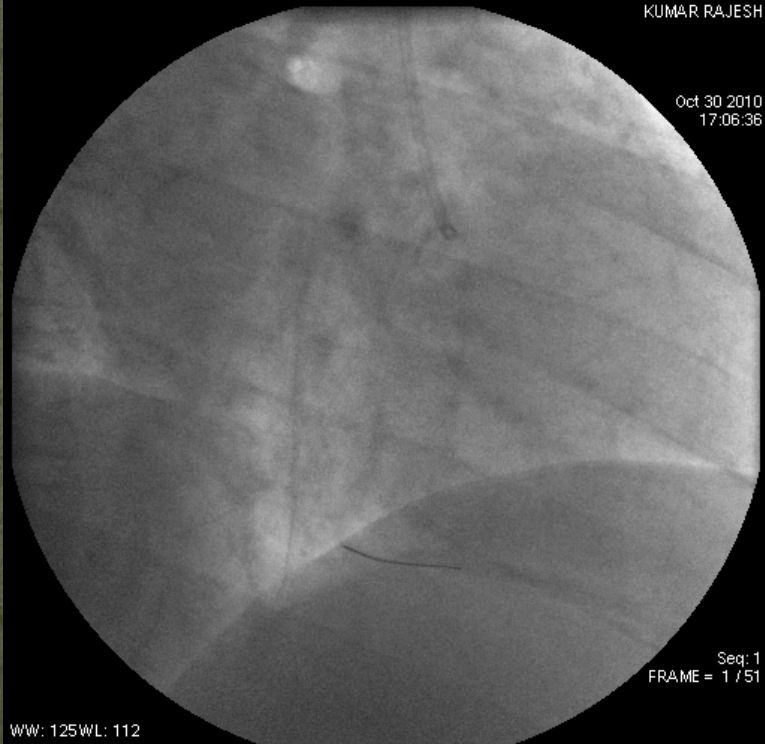
- Successful PCI and stenting to RCA done with good flows
- JR 3.5 Launcher from Medtronic, soft tip guidewire
- Intracoronary NTG and Nikoran given.



- Subsequently in next shot proximal RCA was totally occluded with dissection flap.
- After 30 mins of strenuous effort entry in true lumen with change of guide cath and soft tip guidewire obtained, and subsequent films obtained.

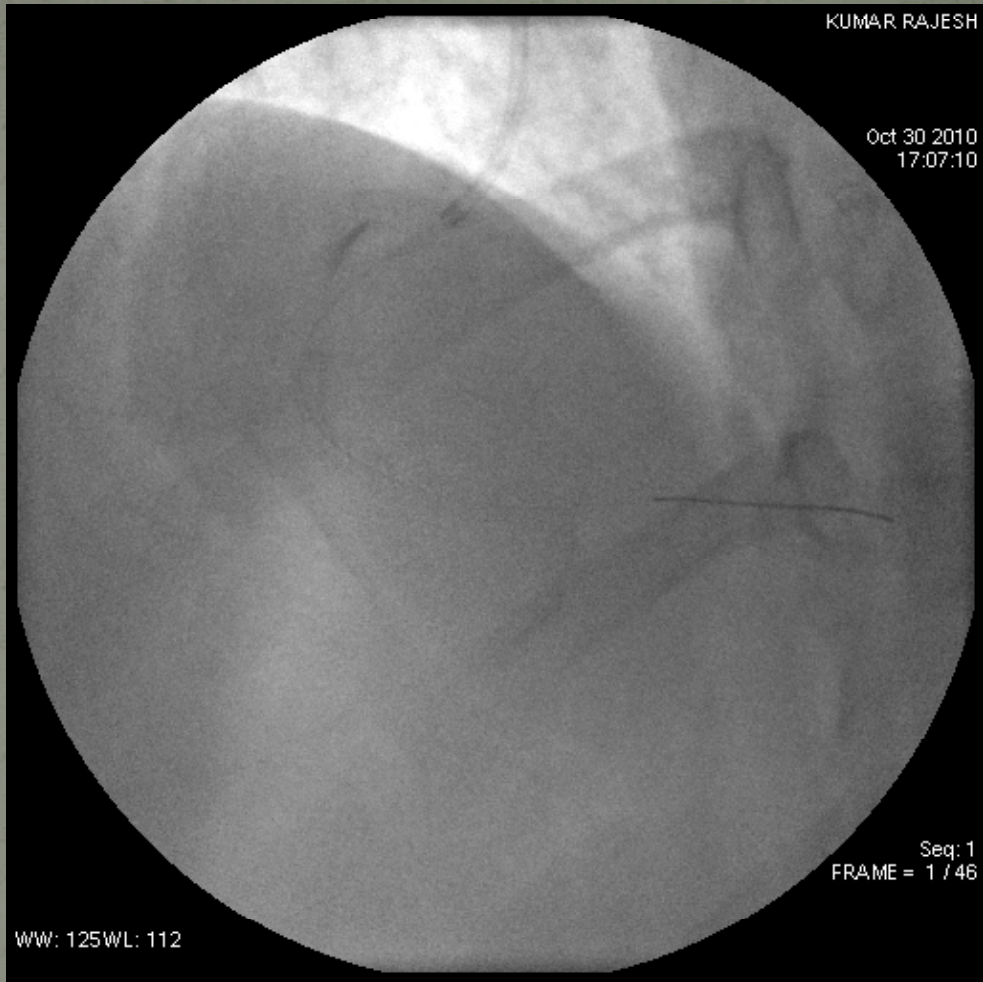


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KUMAR RAJESH



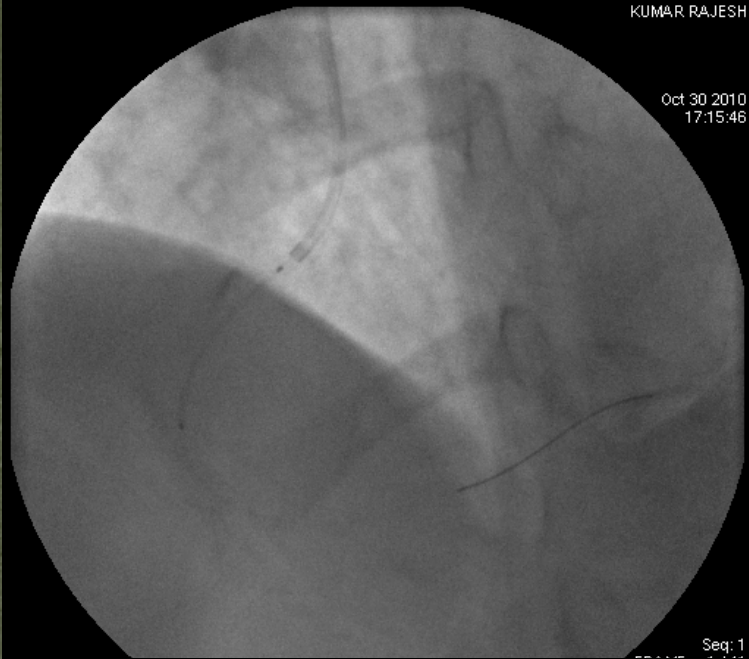
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WW: 125WL: 112



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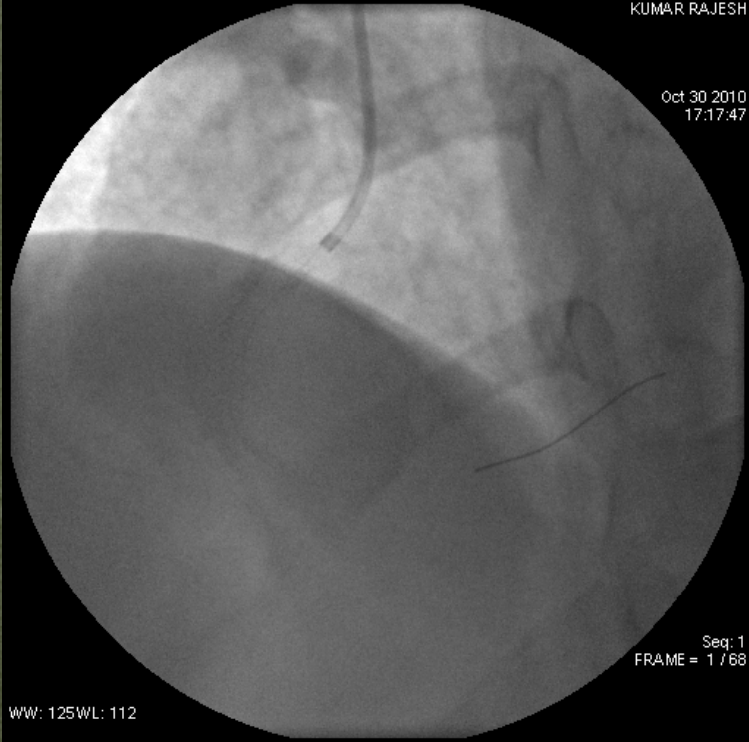
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KUMAR RAJESH

Oct 30 2010
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KUMAR RAJESH



Oct 30 2010
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WW: 125WL: 112

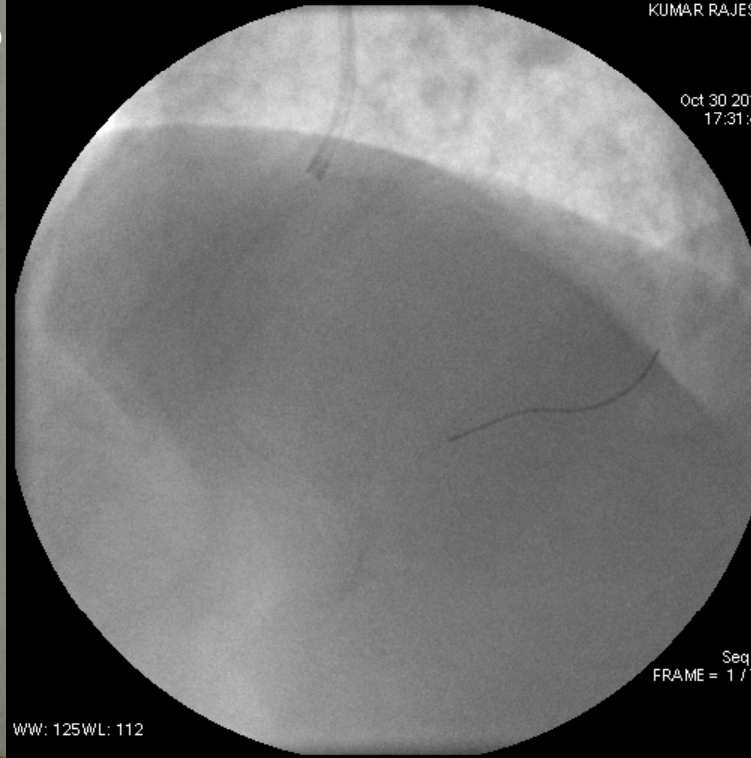
Stent
3.5X30



KUMAR RAJESH

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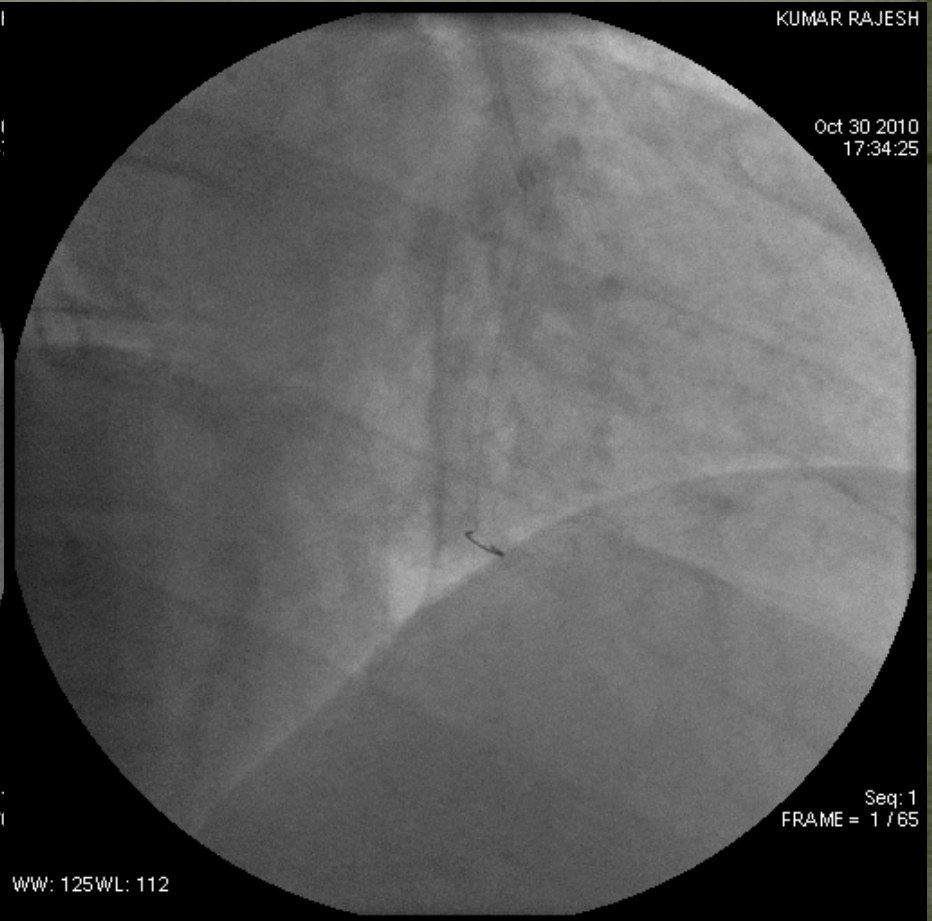
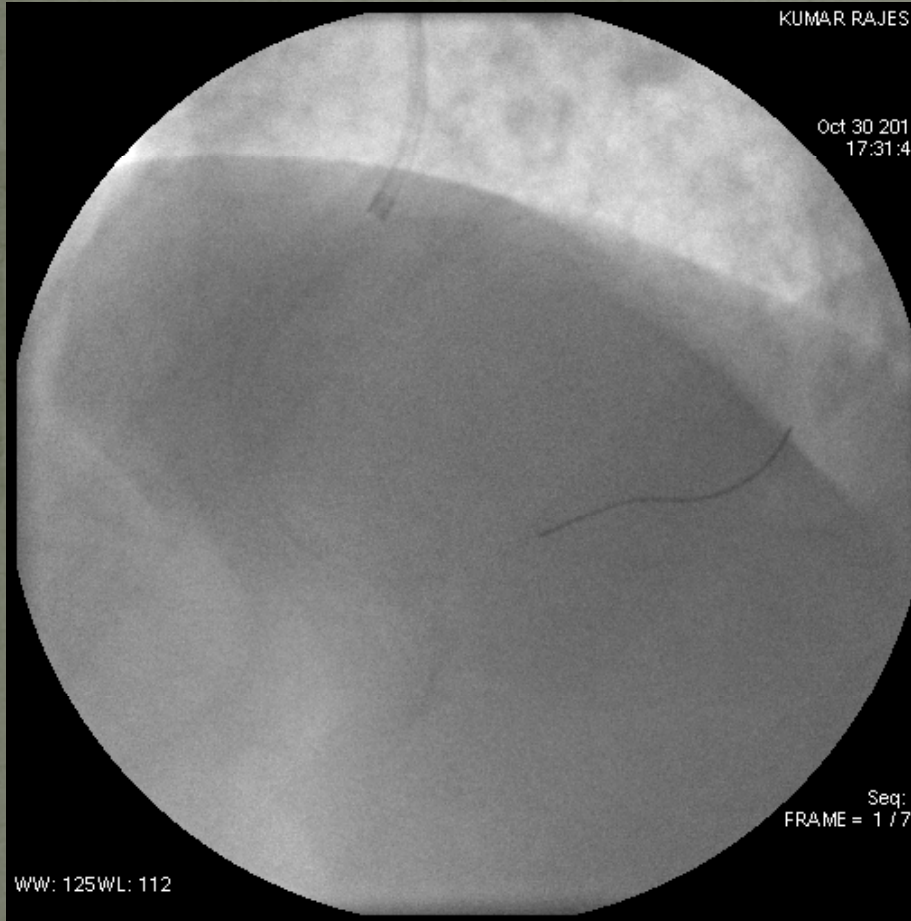


Oct 30 2010
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Seq: 1
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WW: 125WL: 112

Stent
3.5X12

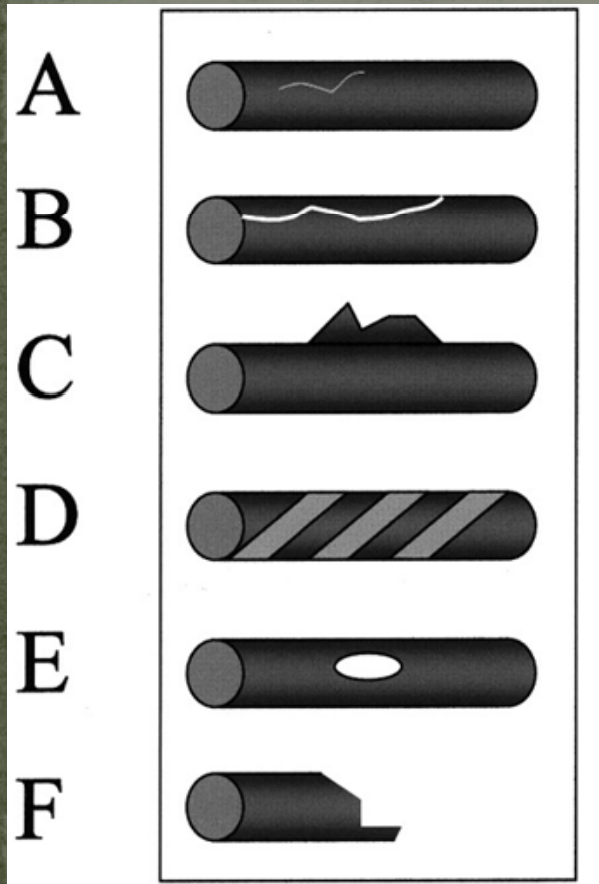


Final result

Coronary artery dissection

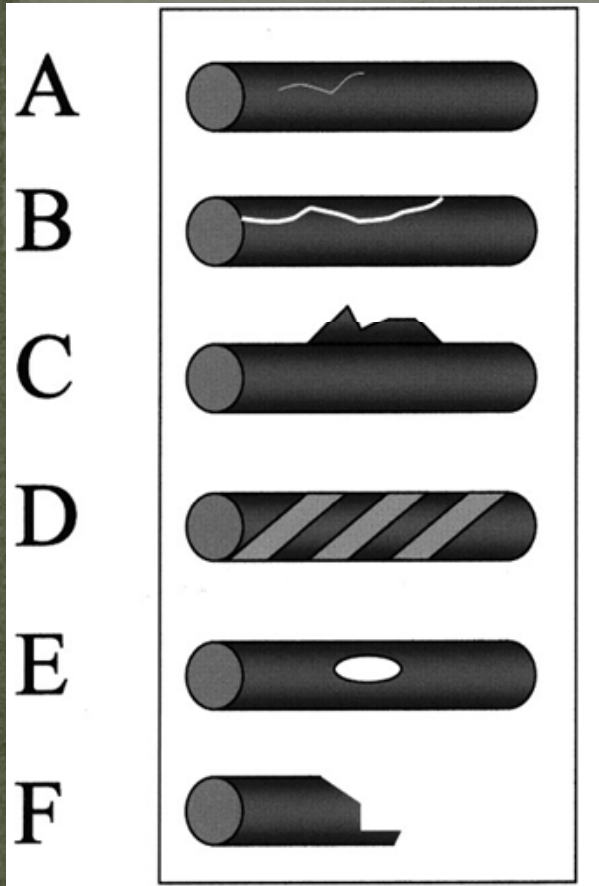
- Type F dissection: represent those that lead to total occlusion of the coronary lumen without distal antegrade flow.
- Acute vessel closure is the most feared complication due to coronary artery dissection, and in the pre-stent era occurred in up to 11% of all elective PTCAs.
- With the advent of coronary stents, the incidence of acute closure in elective PCI is now less than 1%.
- Ischemic complications in the current era usually occur as manifestations of edge dissections after stenting, which may predispose to stent thrombosis.

Classification of dissection



- Type A dissections: Minor radiolucent areas within the coronary lumen during contrast injection with little or no persistence of contrast after the dye has cleared.
- Type B dissections: are parallel tracts or a double lumen separated by a radiolucent area during contrast injection, with minimal or no persistence after dye clearance.
- Type C dissections: appear as contrast outside the coronary lumen "extraluminal cap" with persistence of contrast after dye has cleared from the lumen.

Classification of dissection



- Type D dissections represent spiral ("barber shop pole") luminal filling defects, frequently with excessive contrast staining of the dissected false lumen.
- Type E dissections: appear as new, persistent filling defects within the coronary lumen.
- Type F dissections: Total occlusion of the coronary lumen without distal antegrade flow. In rare cases, a coronary artery dissection may propagate retrograde and involve the ascending aorta

Risk factors for Dissection

Definite

- Left main disease
- The use of Amplatz-shaped catheters.
- Catheterization for acute myocardial infarction.

Possible

- Vigorous catheter manipulations.
- Vigorous contrast injection.
- Deep intubations of the catheter
- Variant anatomy of the coronary ostia.
- Vigorous, deep inspiration.

Prevention of catheter-induced coronary artery dissection

- Choice of guide catheter and handling techniques
- Awareness of the potential risk may aid in rapid recognition
- Appropriately sized and shaped catheters to avoid the contrast injection being directed at a plaque.
- Initial contrast injections should not be forceful until correct coaxial alignment of the catheter has been demonstrated.
- Contrast should not be injected if the pressure is damped

Management of coronary dissections

- Depend on the patency of the distal vessel and the extent of propagation of the dissection.
- Acute closure of the artery, urgent revascularization is mandated to prevent infarction.
- In the absence of acute vessel closure, if there are new ECG changes or chest pain suggesting ischemia, type A or B, conservative strategy can be adopted.
- Soft-tip wires should be used to access the true lumen, and contrast should be injected through an over-the-wire balloon to confirm the true lumen.
- If the initial attempt fails and enters the false lumen, another soft-tip wire should be carefully manipulated into the true lumen , guide may be withdrawn a bit.