

# Pharmacomechanical lysis strategy for management of acute arterial and venous thrombosis in a patient with hypercoagulable state

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# Disclosure

Speaker name:AMIT GUPTA

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- I do not have any potential conflict of interest

# CASE SUMMARY PART 1

61-year-old male with pancreatic cancer s/p Whipple surgery one year prior, followed by radiation and chemotherapy, presented to affiliate hospital with severe right lower extremity pain, swelling and discoloration.

Ultrasound revealed extensive femoral deep venous thrombosis.

# CASE SUMMARY PART 1

Treated initially with weight based enoxaparin with worsening pain and swelling and transferred to out institution after five days for consideration of invasive management.

Past History: HTN and COPD

Social History: Former smoker

# CASE SUMMARY PART 1

Exam:

Vitals stable

Severe right lower extremity swelling with pitting edema up to mid thigh. Delayed capillary refill.

Diminished pedal pulses. No skin breakdown

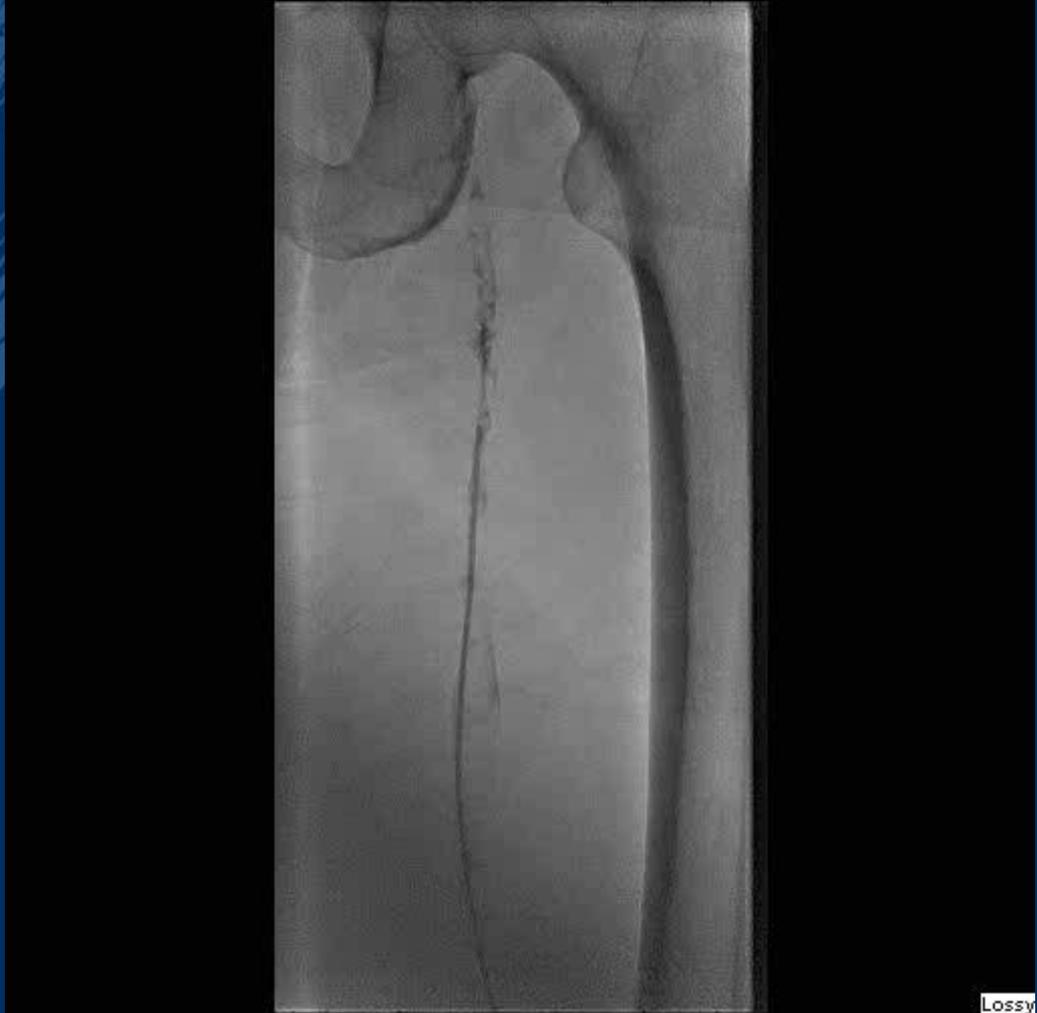
# CASE SUMMARY PART 1

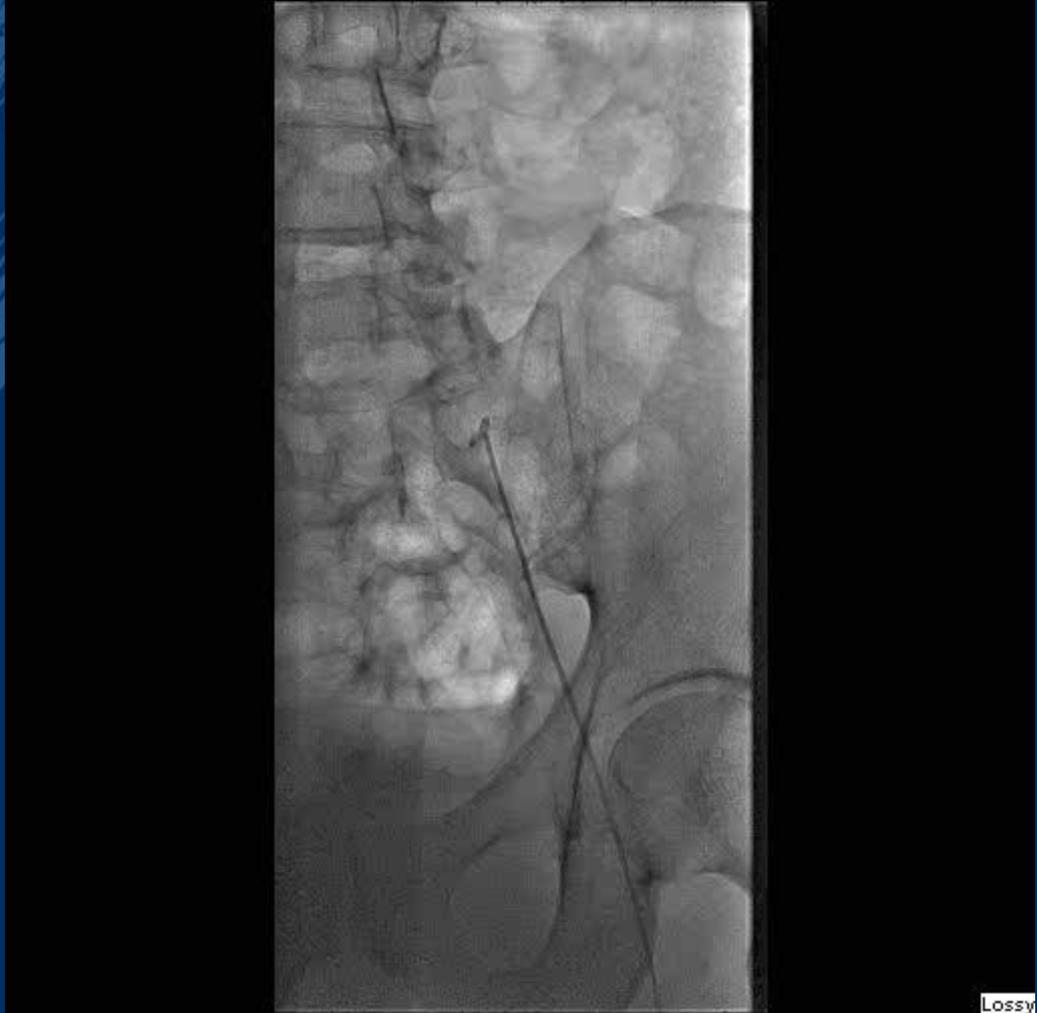
Doppler:

The right common femoral, femoral, popliteal, veins demonstrated lack of normal compressibility and augmentation with intraluminal echogenicity and lack of flow by spectral waveform suggesting extensive deep venous thrombosis

# INTERVENTION PART-1

- Ultrasound guided popliteal vein access
- Iliofemoral venogram







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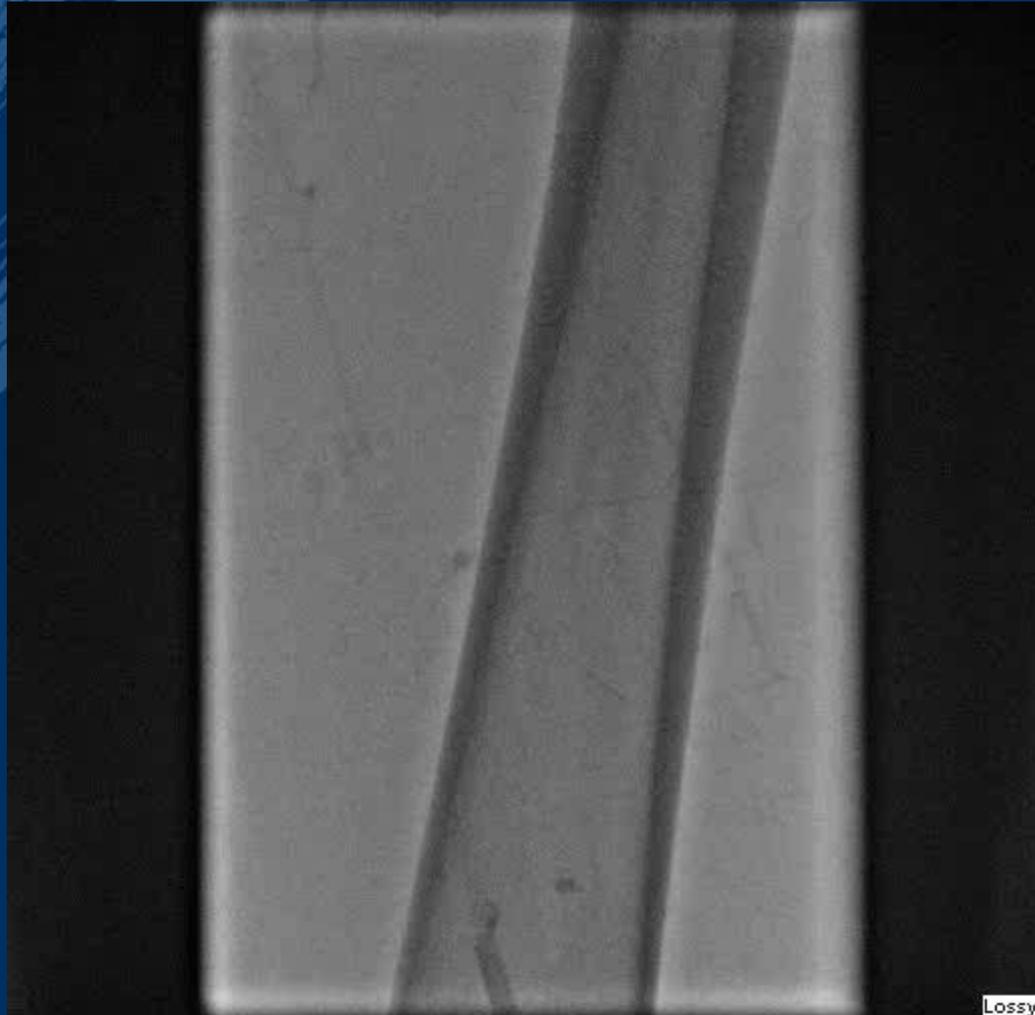
# INTERVENTION PART-1

- Ekosonics MACH4 catheter placed in the femoral vein
- Alteplase infusion at 1mg/hour for 12 hours via Ekosonics MACH4 catheter
- Heparin 400U/hour via sheath sideport

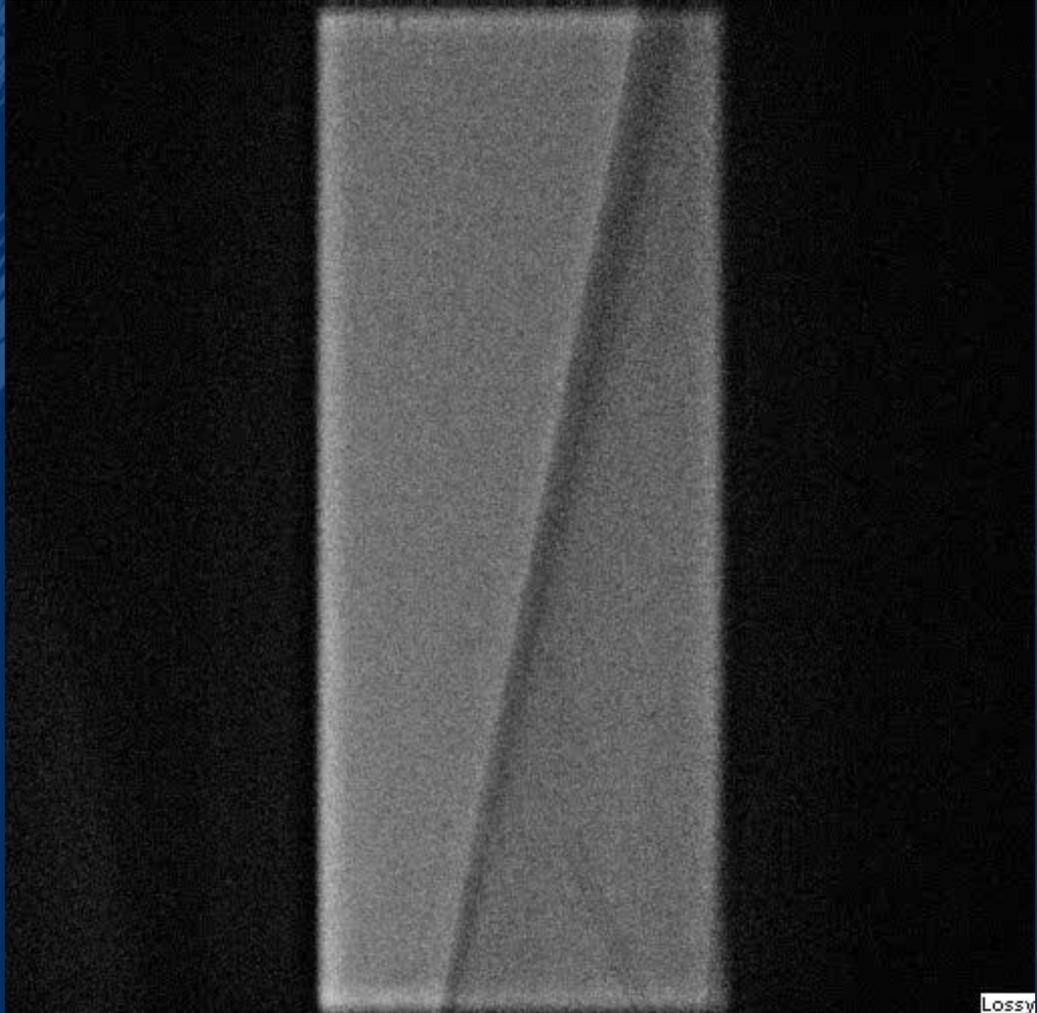
# INTERVENTION PART-1

- Relook angiogram following day showed mild residual thrombus.
- Mechanical clot aspiration with 6F Multipurpose guide catheter followed by low pressure angioplasty with a 7mm compliant balloon.
- Post procedure management with rivaroxiban and compression stocking.





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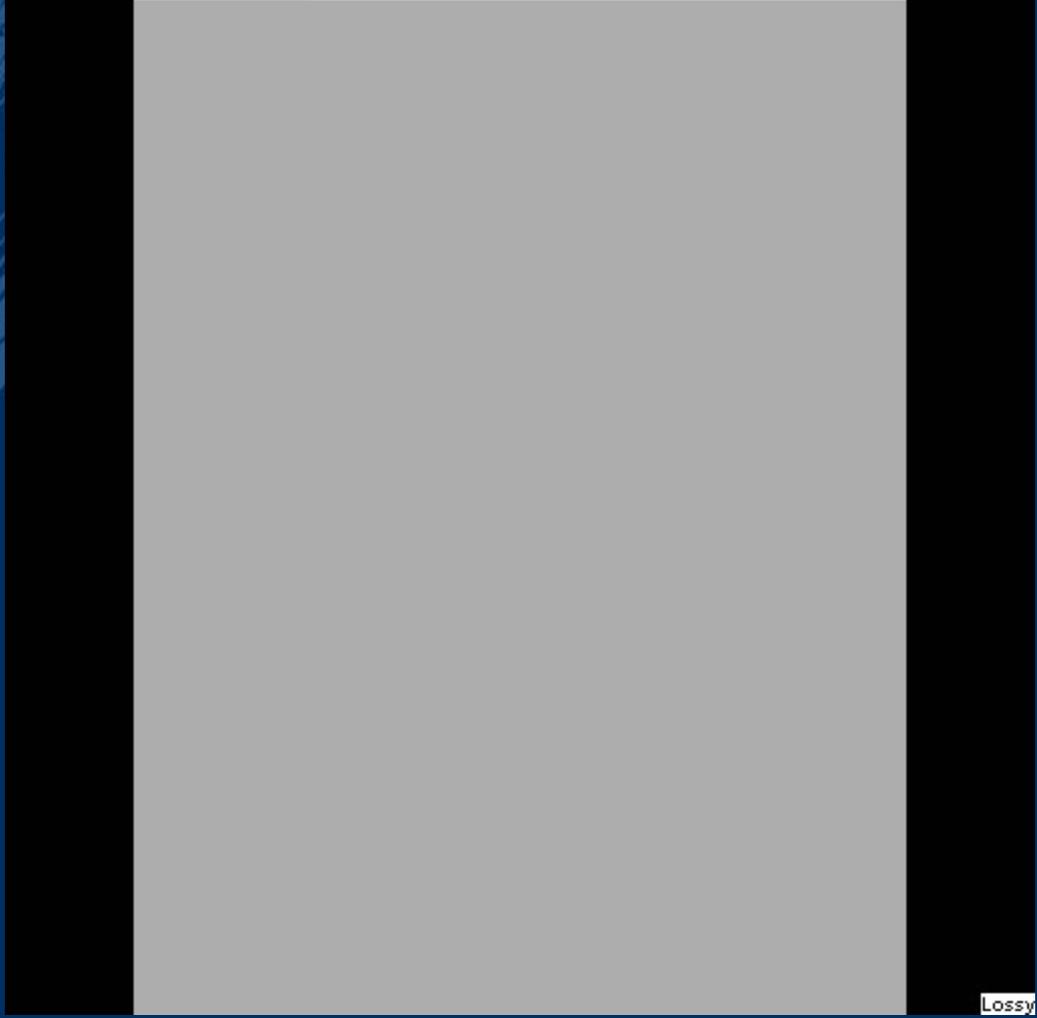
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## CASE SUMMARY PART 2

- Patient presented 6 months later with acute onset of pain and discoloration in the left lower extremity.
- Exam notable for absent pedal pulses, cool left foot and mottled skin.
- CTA run off demonstrated 3.7cm ulcerated AAA and thrombotic occlusion of left superficial femoral and popliteal arteries
- Last rivaroxiban dose: was 6 hours prior

# INTERVENTION PART-2

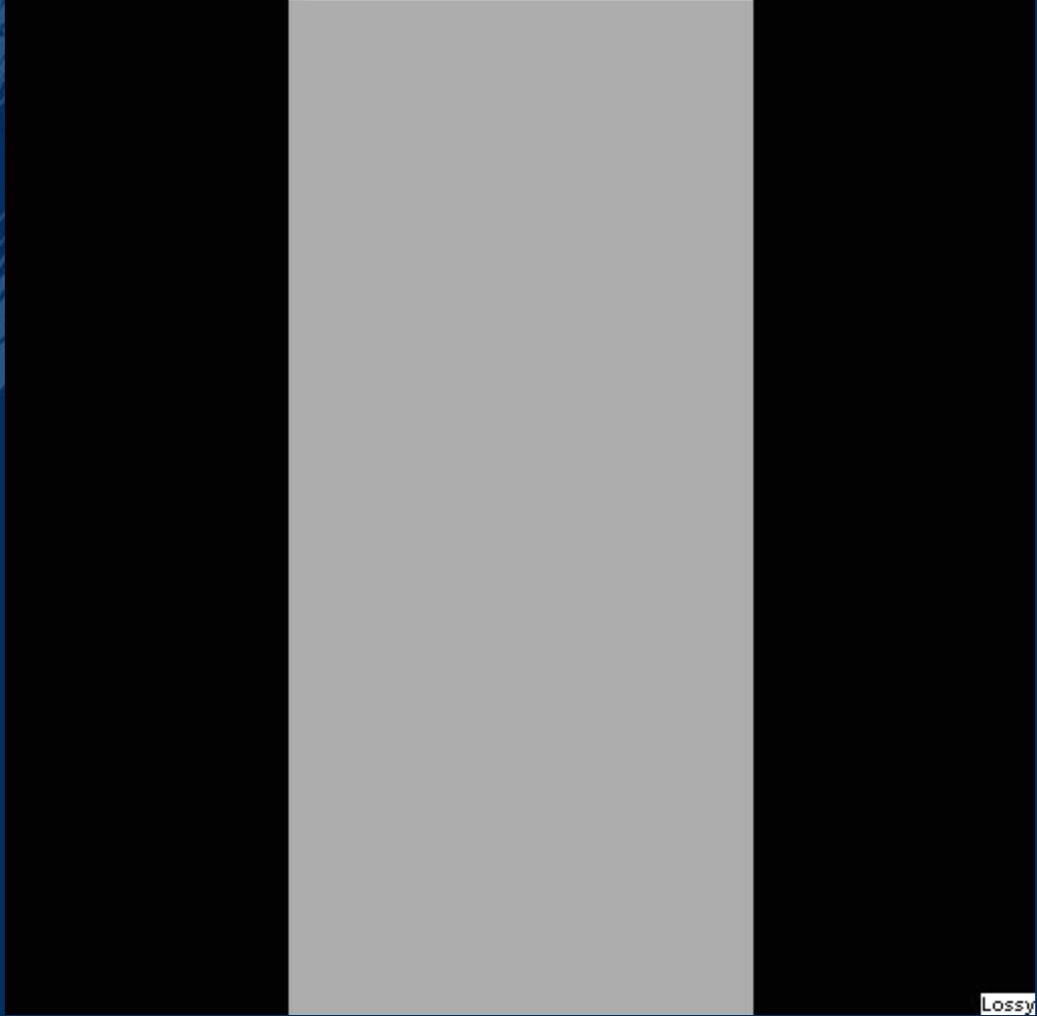
- Right femoral arterial access.
- Left femoral angiogram: Distal SFA occluded with large thrombus burden
- Lesion crossed with guidewire
- Poor distal run off
- Ekosonics MACH 4 catheter placed in in the distal SFA and popliteal arteries to infuse alteplase for 12 hours at 1mg/hour and heparin infused via sheath side port at 400U/hour.

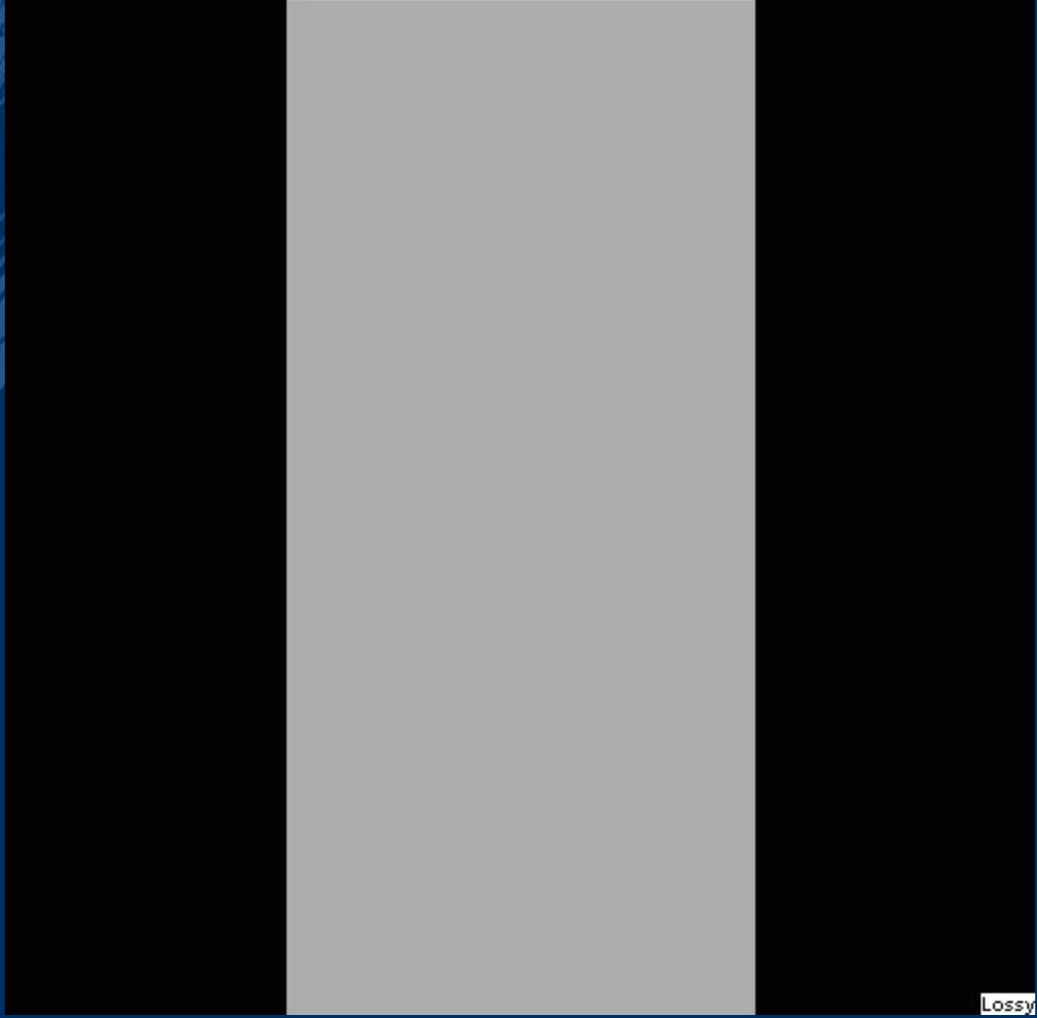








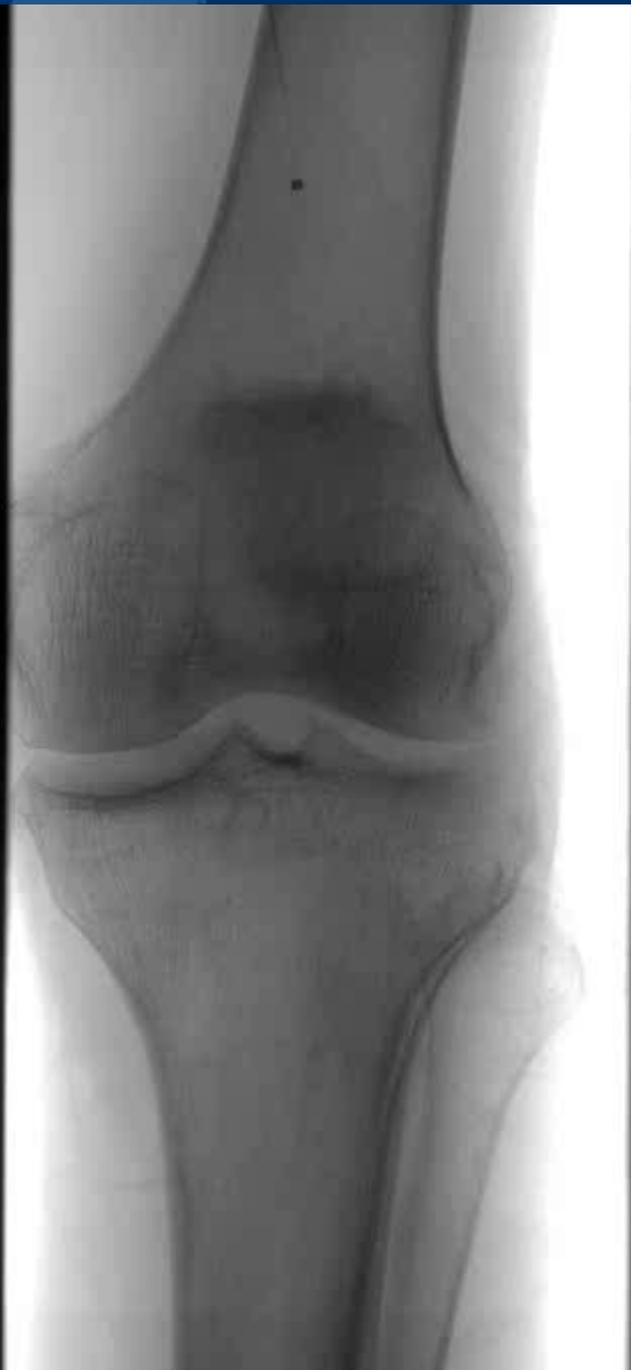




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# INTERVENTION PART-2

- Symptoms resolved with normal pedal pulses noted at 6 hours
- Re-look angiogram: Restoration of three vessel run off to the foot, no residual thrombus and no need for adjunct angioplasty.
- Transesophageal ECHO showed no intra-cardiac thrombus.
- Post procedure treated with long-term weight based enoxaparin and later switched to warfarin and aspirin with INR in 3-3.5 range.





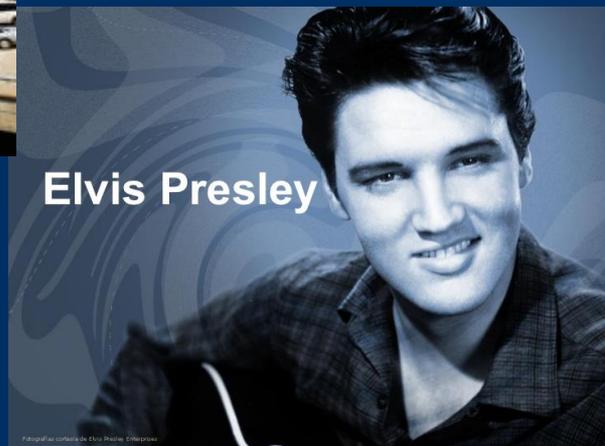


# SUMMARY

1. Consider Pharmacomechanical lysis early for patients with large thrombus burden with extensive DVT or arterial occlusion.
2. Very low doses of catheter directed thrombolytic therapy is a very safe and effective strategy.
3. Avoid novel anticoagulants in patients with malignancy related thrombosis. Prefer use of enoxaparin or INR adjusted warfarin plus Aspirin.



Thank you for your kind attention



Tupelo, MS: Elvis Presley Birthplace

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