

Phlegmasia cerulea dolens and  
compartmental syndrome  
as a complication of  
improperly managed femoro-  
popliteal DVT with May  
Thurner syndrome

The logo for LING, featuring a stylized graphic of three curved, overlapping shapes in dark blue, red, and yellow, with the word "LING" in white capital letters to its right.

LING

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# Disclosure

Speaker name:

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I have the following potential conflicts of interest to report:

- Consulting
- Employment in industry
- Stockholder of a healthcare company
- Owner of a healthcare company
- Other(s)
  
- I do not have any potential conflict of interest

**Phlegmasia dolens is a rare disorder caused by massive venous thrombosis.**

**Subclassified as phlegmasia cerulea dolens(PCD) and phlegmasia alba dolens.**

**In PCD, the prognosis is worse mortality rate is high, amputation for venous gangrene is needed if the condition not treated properly in an early stages**

**❑ We reported a case of PCD with compartmental syndrome managed urgently by thrombolysis , fasciotomy, then physiotherapy**

**❑ We think that we offered proper treatment modalities regarding the patient general condition and the presented stage**

**□ A 56 years old obese man with history of Diabetes mellitus presented to the emergency department as a referral from nearby hospital with 3 days of admission there**

**□ He presented to them with history of progressive left lower extremity pain and swelling 2 days before**

- Provisional diagnosis was Deep Venous thrombosis of the femoro- popliteal segment, provoked, suspected PE managed by ICU admission, systemic thrombolysis (alteplase- metalyse) as their local protocol**
- The condition deteriorated to full picture of phlegmasia cerula dolens with signs of compartmental syndrome of the left leg, scrotal swelling and possible rhabdomyolysis**

- ❑ Full medical history, clinical examination, cardiology and nephrology consultation(his creatinine level was 2)**
- ❑ Consented for the risk of contrast induced nephropathy and thrombolysis, then was shifted directly to the angio-suite, with left popliteal vein access**



- ❑ Mechanical thrombolysis by “Aspirix” to the popliteal, femoral, iliac vein till the caval bifurcation, then catheter directed thrombolysis (CTD) “Alteplase” in a rate of 1 mg/hour with heparin infusion for 24 hours**
- ❑ Venography revealed improvement with residual filling defect in the femoral and iliac segment**

- ❑ “Aspirix” was used again, recanalization occurred to the entire venous segment except small lesion in the femoral vein dilated.**
- ❑ Intra Vascular UltraSound (IVUS) was used revealed May Thuner syndrome.**
- ❑ Venous stenting to left common iliac vein and the residual femoral vein lesion, post intervention image revealed good patency and flow**

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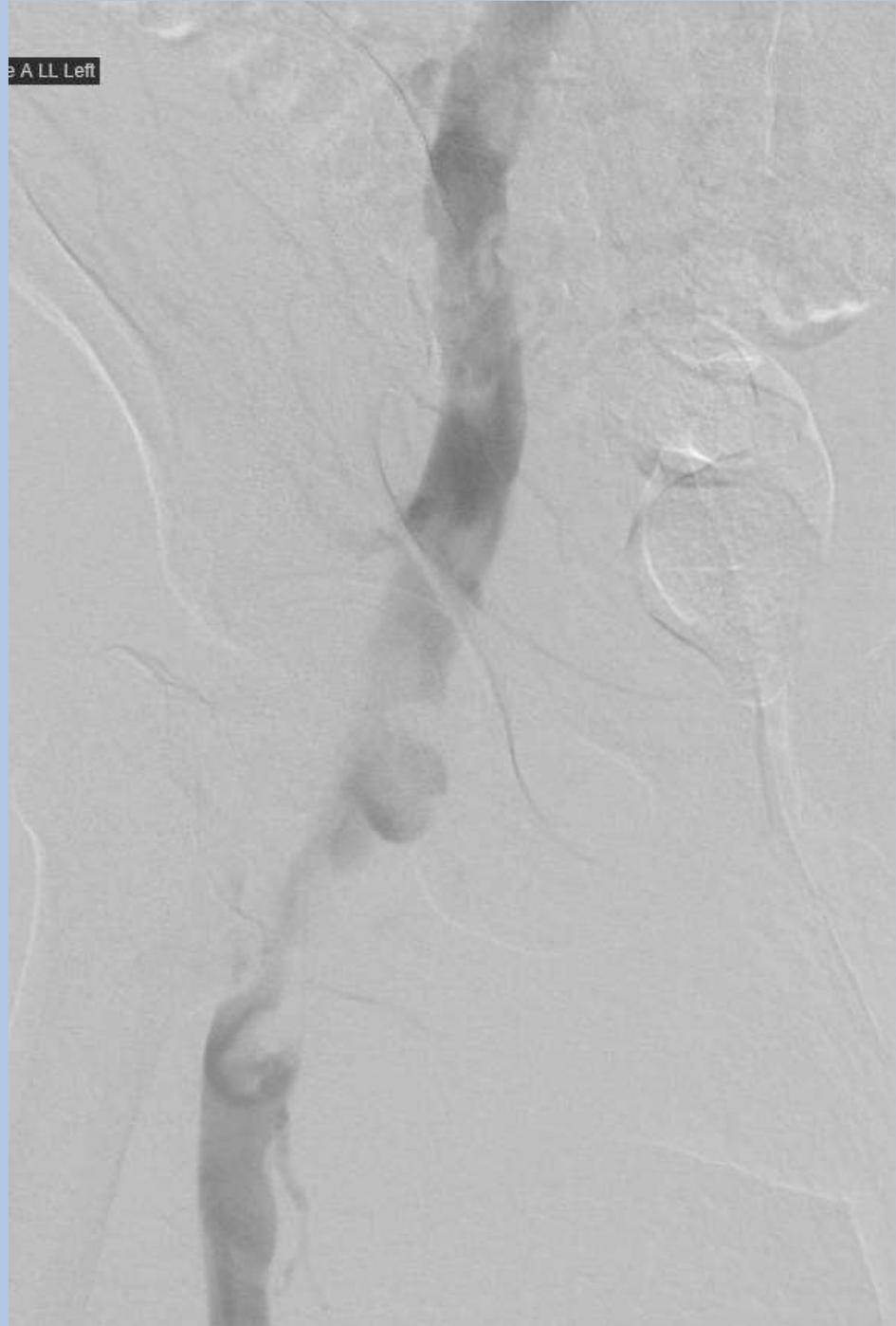
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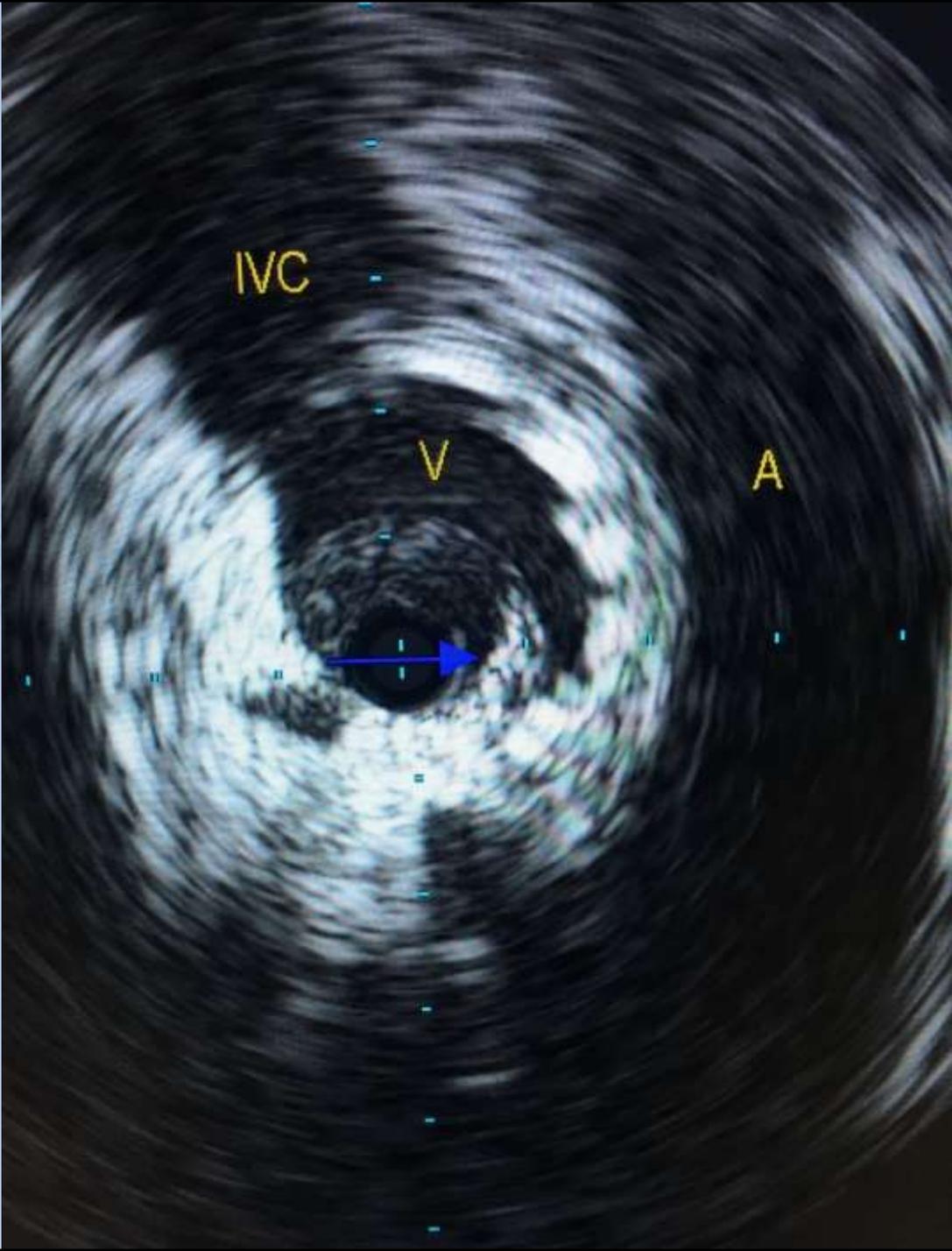


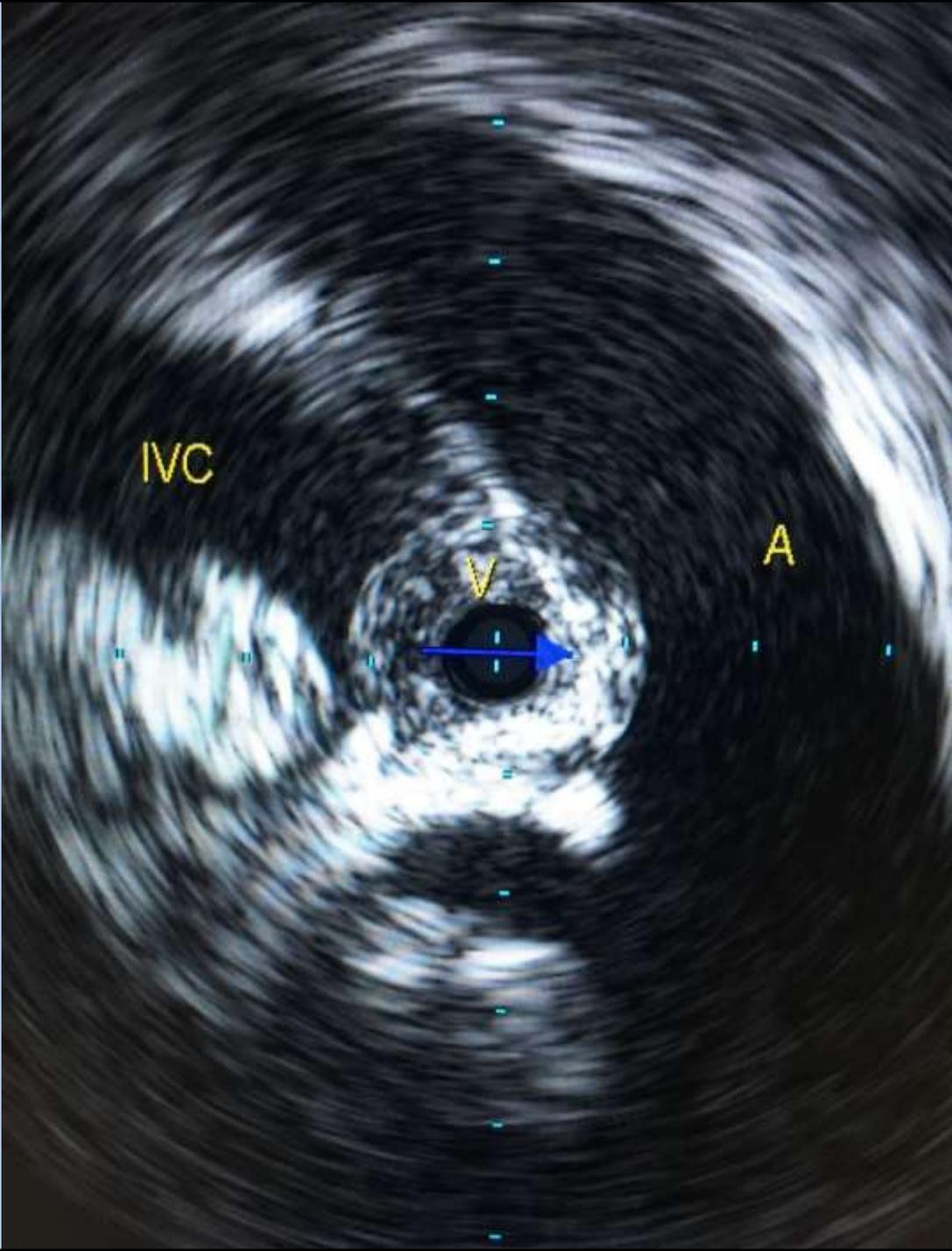
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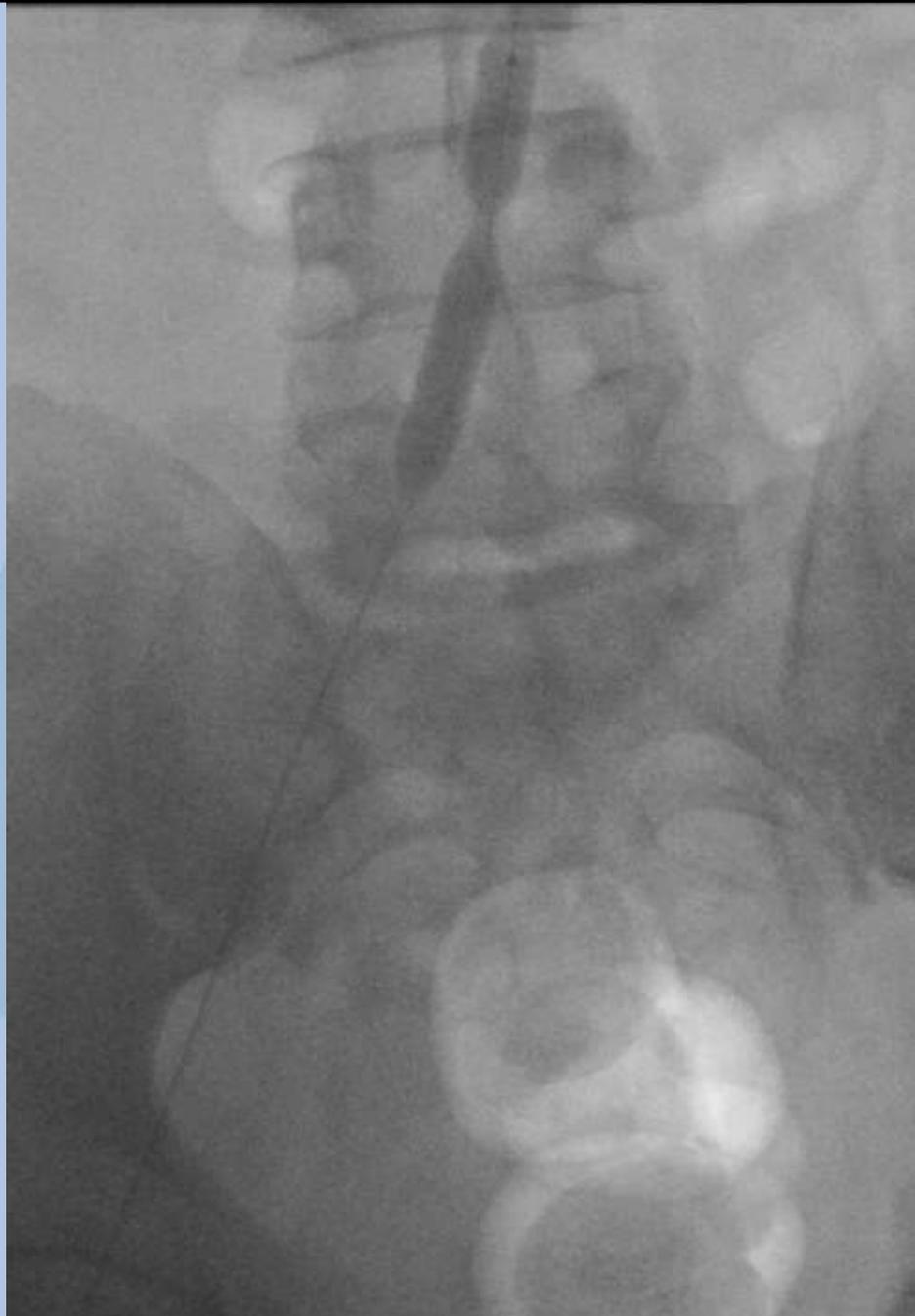


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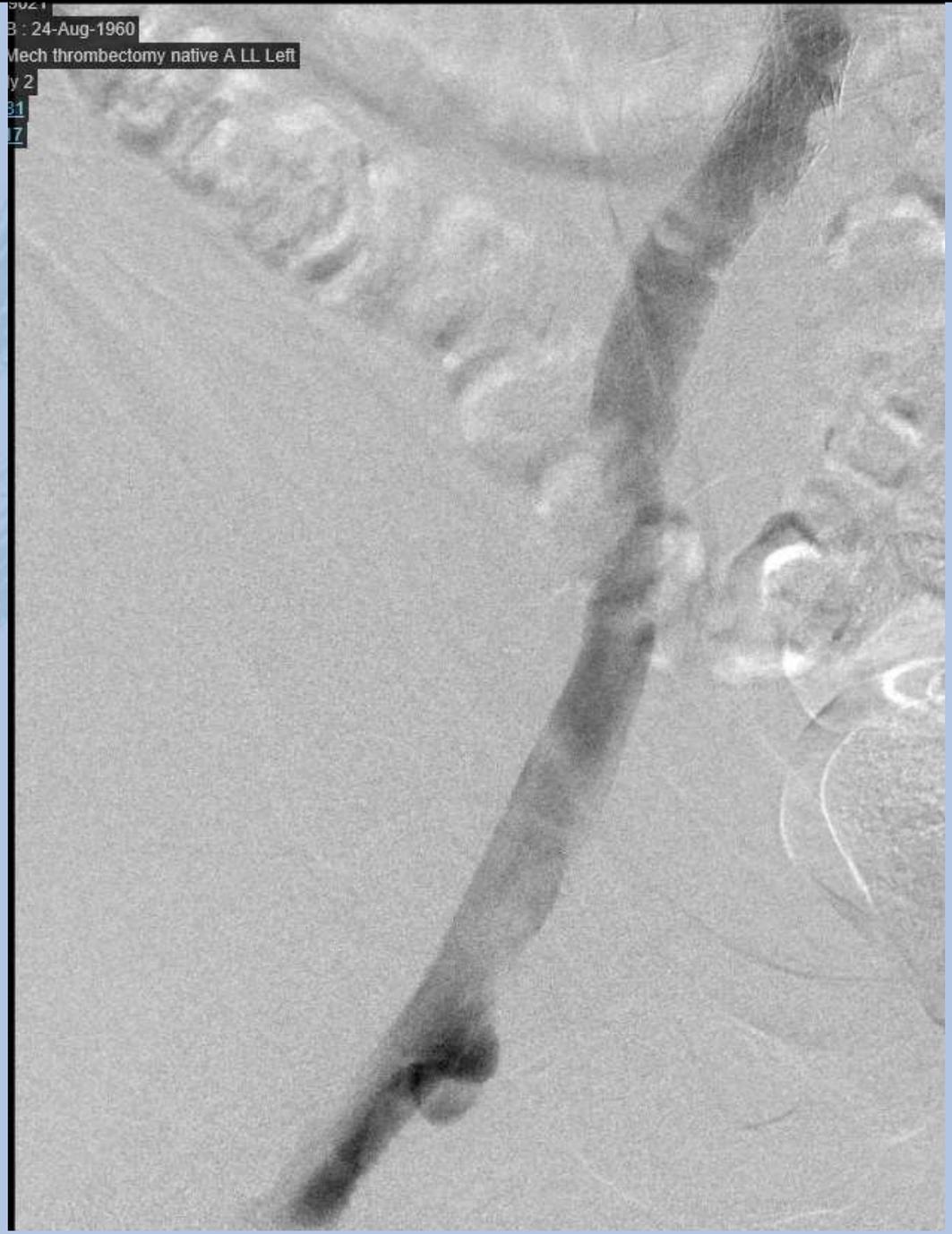
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**=Next day morning, the patient was shifted to the OR, fasciotomy was done to his left leg.**

**= 2 days late, he was shifted again for debridement of necrotic tissues under the lateral fasciotomy incision, then VAC therapy was used to aid wound closure.**

**= Within 10 days: gradually improved, left lower limb pain and edema subsided**

**= Still has partial left foot drop improving with physiotherapy**





# Discussion

- ❑ Acute deep vein thrombosis (DVT) is associated with significant morbidity in the form of acute limb-threatening compromise from (PCD)
- ❑ Development of the postthrombotic syndrome (PTS), and even death secondary to pulmonary embolism
- ❑ Initial therapy for DVT is anticoagulation, which inhibits thrombus propagation but the existing thrombus burden can cause increased venous hypertension

- ❑ Iliocaval or iliofemoral DVT are proved in nearly all reported cases of PCD.
- ❑ Early attempts at thrombus removal with surgical thrombectomy or systemic thrombolysis or both revealed reductions in the incidence of PTS but their utility are limited
- ❑ Minimally invasive endovascular therapies, such as pharmacomechanical catheter-directed thrombolysis(CTD) have been proposed

## current debate

Data from the randomized controlled (ATTRACT) trial which revealed that the addition of catheter-based intervention to standard-of-care anticoagulation failed to significantly decrease the occurrence of post-thrombotic syndrome in patients who received this treatment strategy when compared to its occurrence in patients who received anticoagulation

- ❑ management of complicated case like ours mandate urgent decrease of the thrombus burden to prevent further sequelae of the PCD that ended by amputation and death in reported cases.
- ❑ Also, the compartmental syndrome that developed in our case managed with more difficulty than usual due to more muscle necrosis and liability to infection proven in similar cases that obligated us to do multiple debridement sessions and using vacuum therapy

- ❑ Another important point in our case that it was started as DVT in the femoro-popliteal segment and improperly managed then rapidly developed to that complicated form of iliofemoral DVT



conclusion

PCD is a very complicated presentation of ilio-femoral or ilio-caval DVT with high morbidity and mortality risks, so, immediate proper management is mandatory to save limb and life.

- ❑ Standard care anticoagulation to non proximal DVT is essential to prevent further propagation and its complicated sequelae