

# Sub-Clavian Artery 'CTO' in a case of Takayasu's Disease.

**Dr P C Mondal**

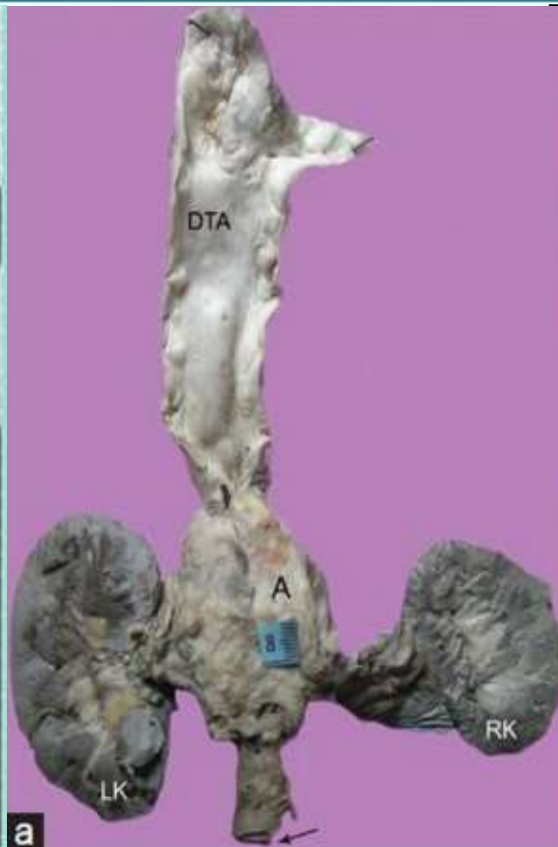
MD,MRCP(UK),MRCP(Ire),MRCPS(Glasgow)

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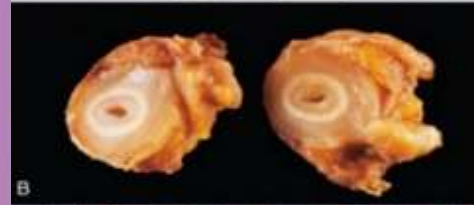
Senior Consultant Interventional Cardiologist

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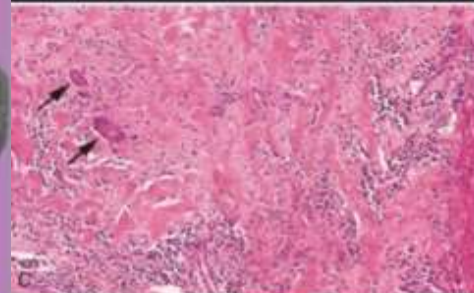
# Takayasu's Arteritis



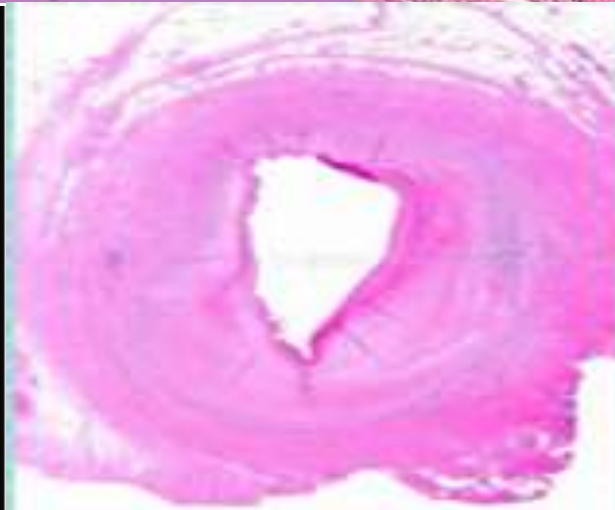
Narrowing of brachiocephalic, carotid, and subclavian arteries  
(arrows)



Marked intimal thickening with minimal residual lumen



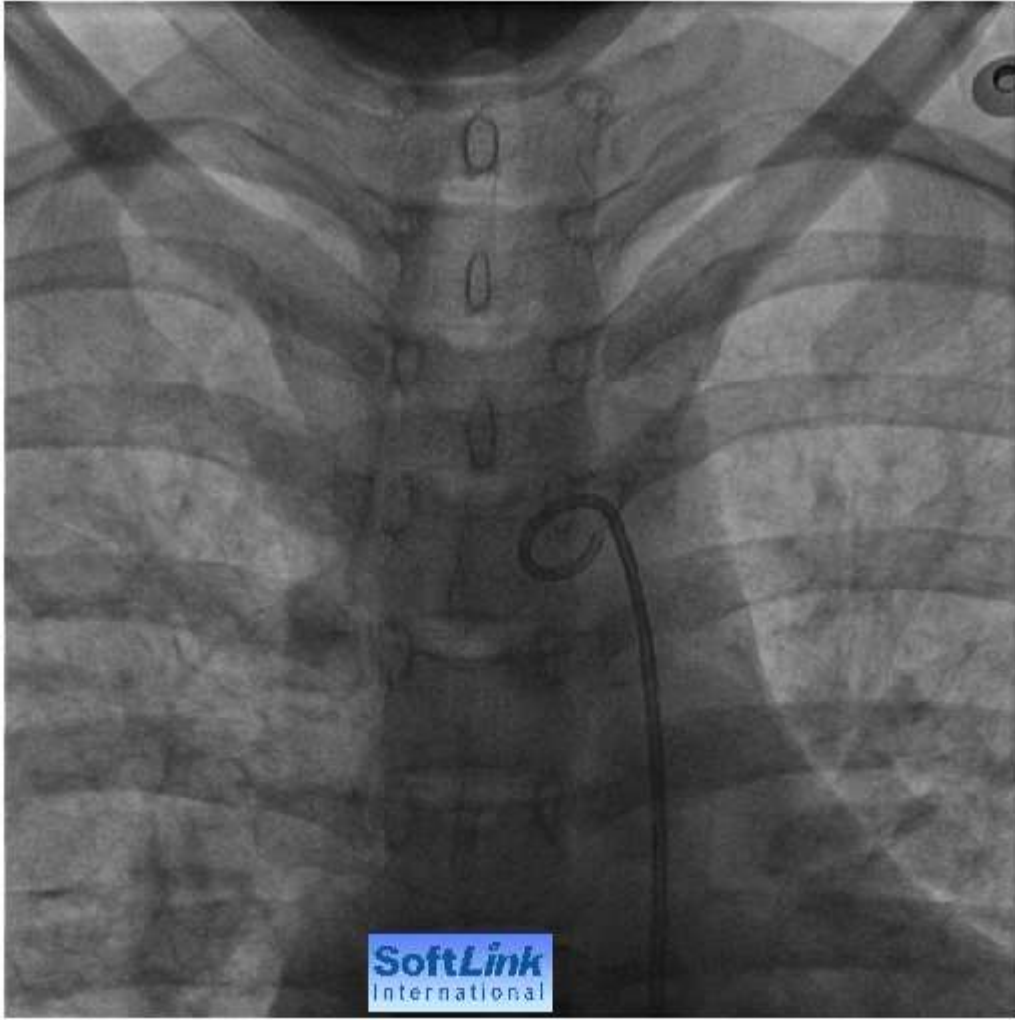
Granulomatous inflammation



# INTRODUCTION







## **Relevant clinical history and physical examination findings:**

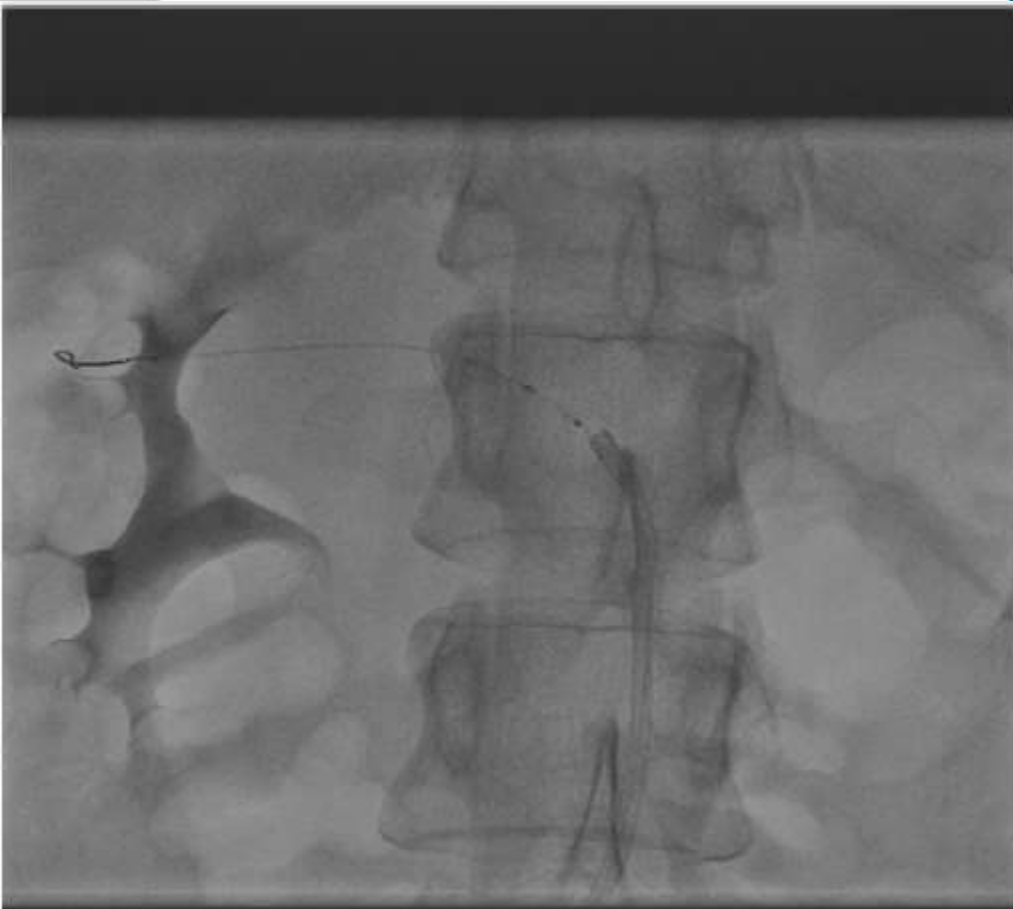
➔ Mrs. K.D. 48yrs female, a known patient of Takayasu's disease with h/o Bilateral renal artery stenting and infra-renal abdominal aortic stenting for refractory systemic hypertension with hypertensive encephalopathy and grade-III bilateral lower limb claudication at the age of 44yrs, presented with right upper limb claudication for 8 months and nocturnal rest pain for 2 months.

➔ She is hypertensive but non-diabetic, non-smoker. No family h/o of CAD. No syncope.

➔ BP-140/80mmHg (Left arm), 100/60mmHg(Rt.arm). Mild wasting of right upper limb (Mid arm circumference- 24cm on left; 21cm on right). No bruit. No murmur. No nail changes.



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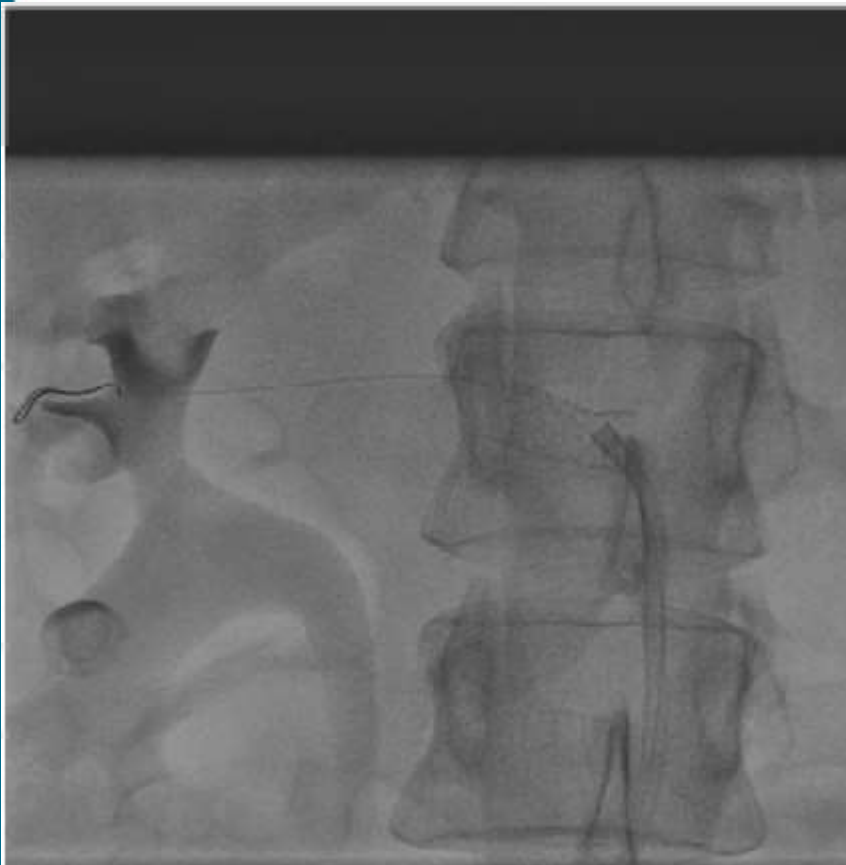


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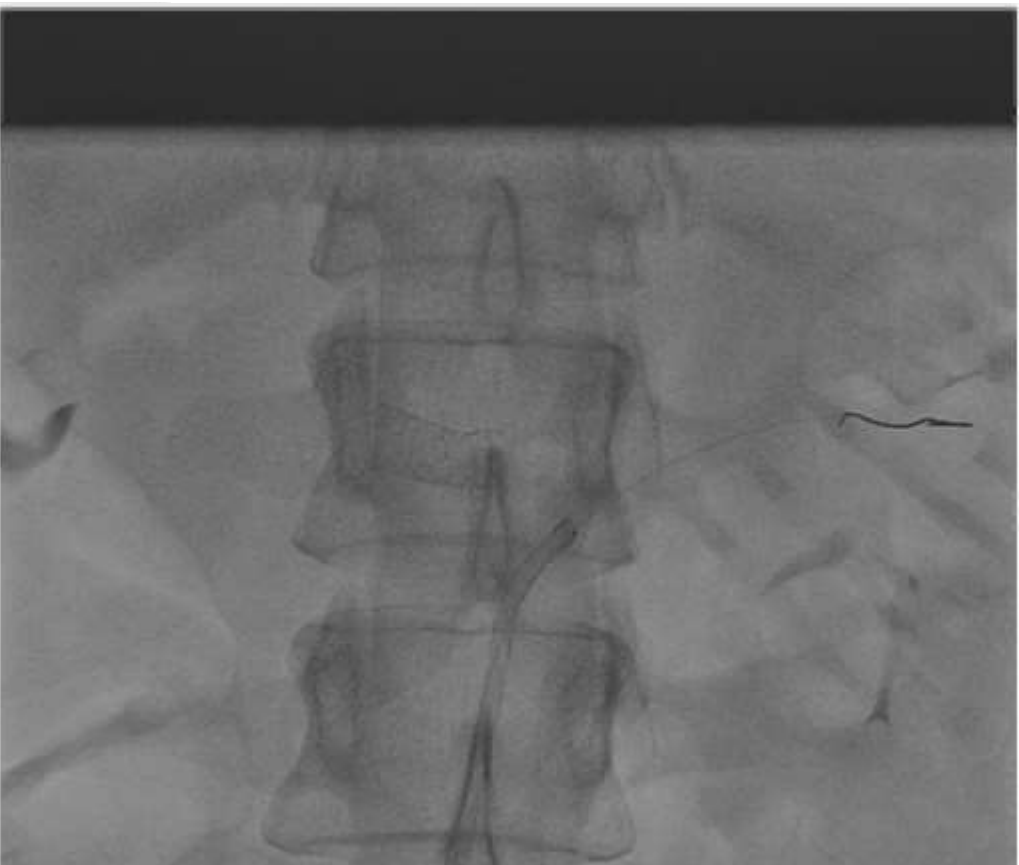


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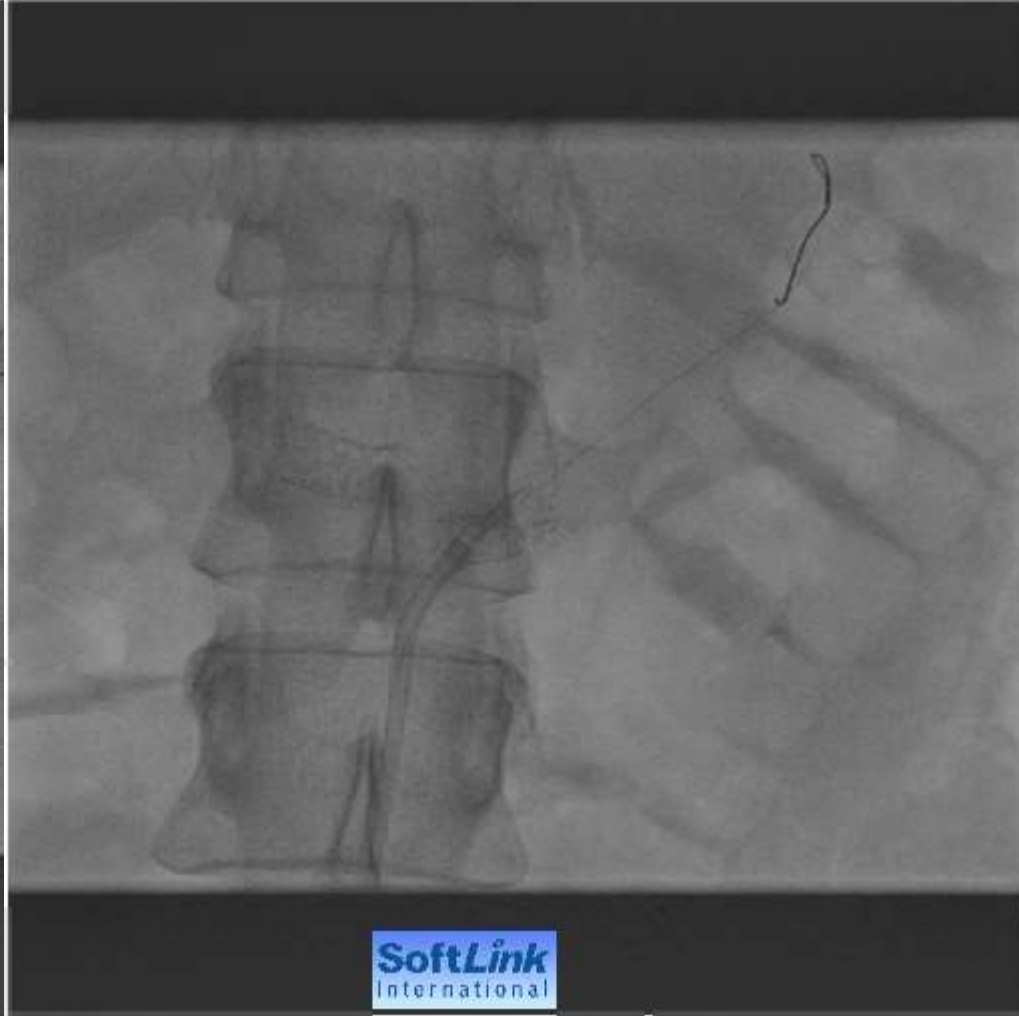


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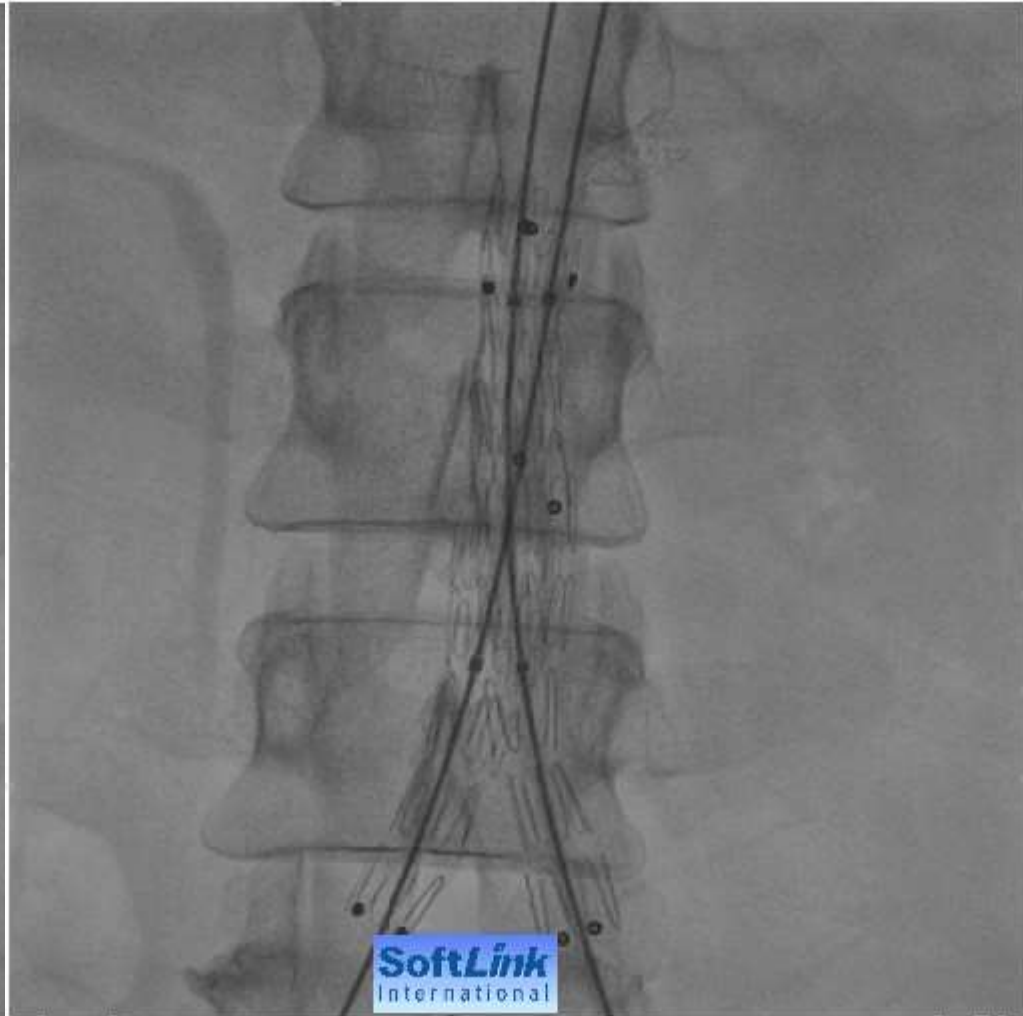
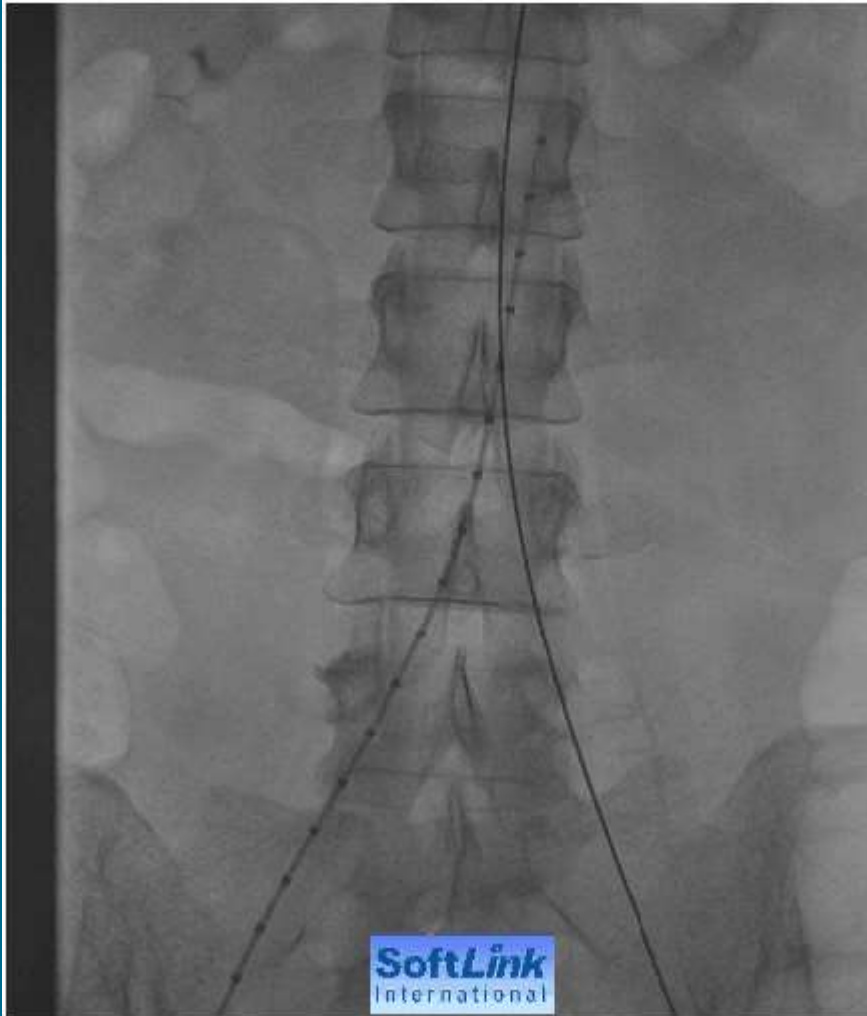
TOUCHING LIVES

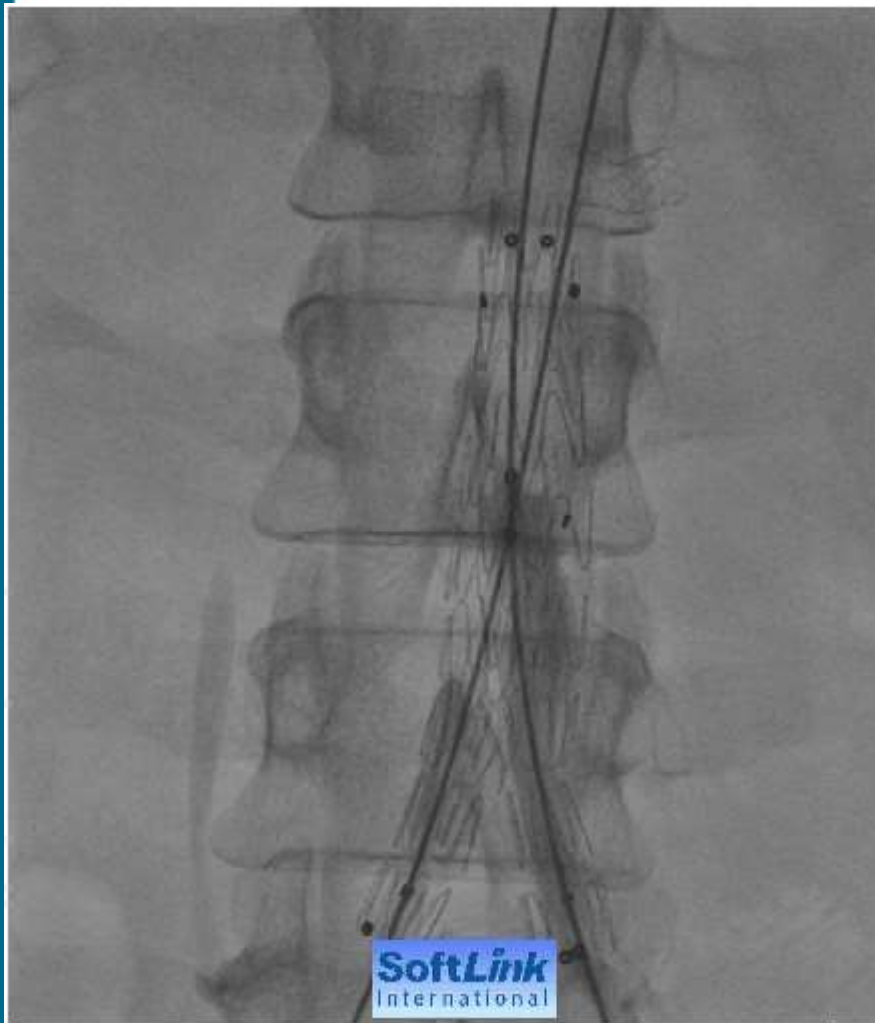


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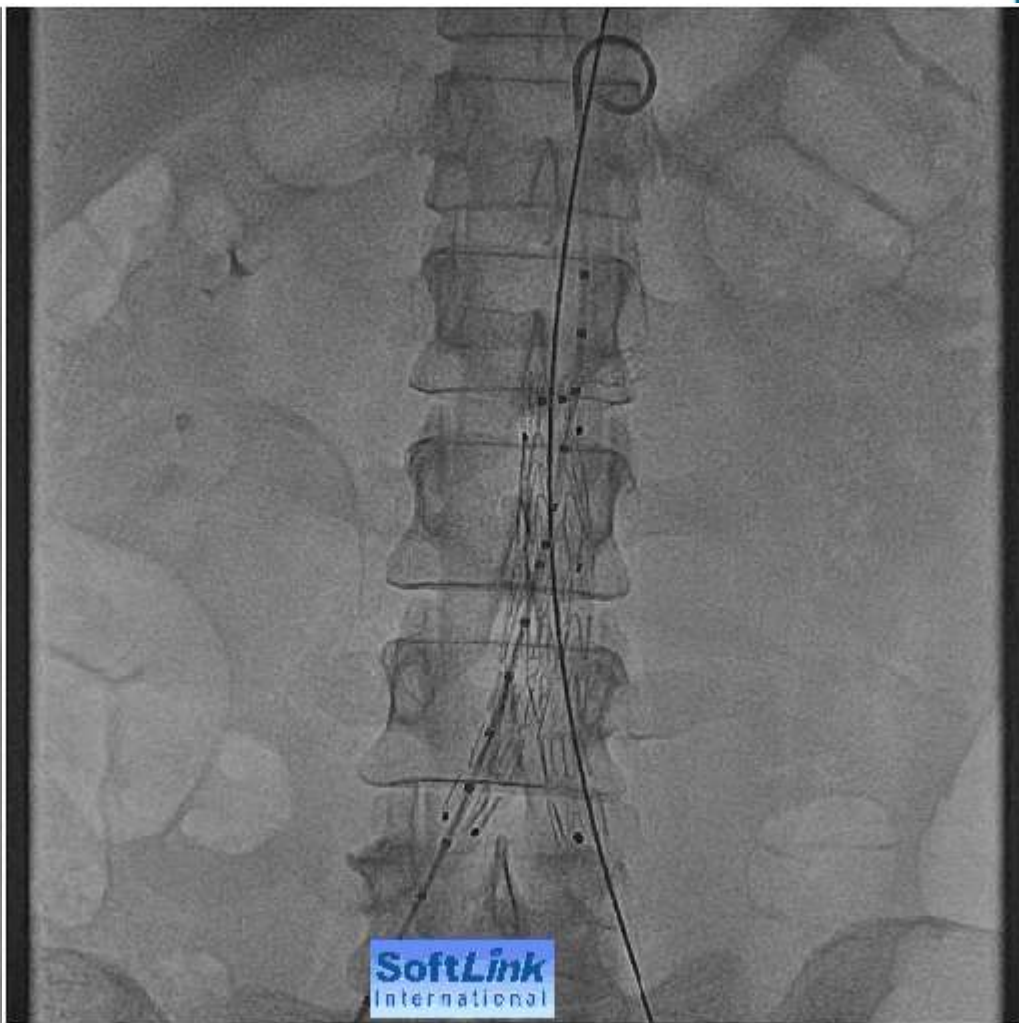


**Importance of this zone**





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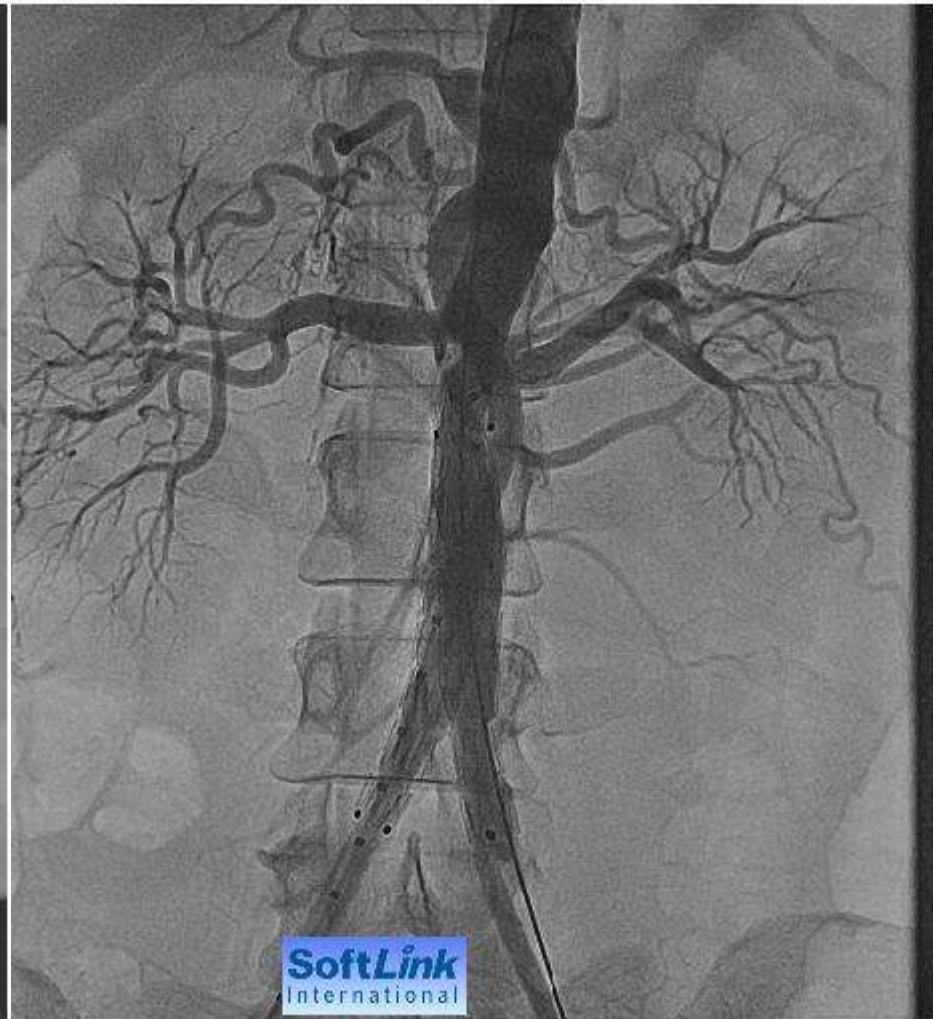
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## Relevant test results prior to catheterization



→ Routine Blood Parameters: TLC-9680/cumm. ESR-28mm (mean). CRP-1.2 Serum Creatinine-0.9mg%. Hb-9.8gm%.

→ ECG - LVH with strain pattern. Left axis deviation.

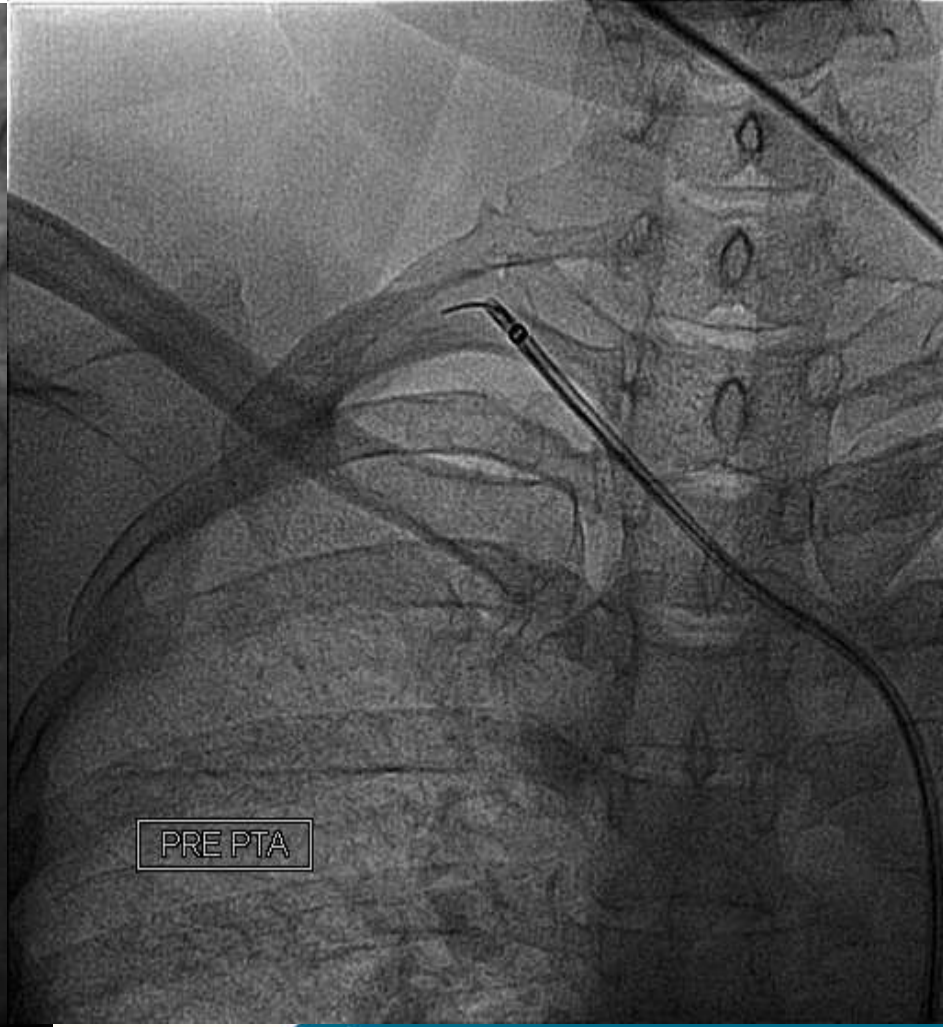
→ ECHOCARDIOGRAPHY- LVH with grade-II diastolic dysfunction. LVEF-60%. No RWMA.

→ Duplex Doppler Vascular Study- Loss of normal triphasic flow with parvas et terdas type flow in right axillary and brachial arteries.

## Relevant catheterization findings

➔ **Peripheral Angiography:: Totally occluded right subclavian artery just after origin of right vertebral artery. Distal reformation of right axillary artery via collaterals. Normal downstream arterial system in right upper limb.**

➔ **Normal coronary arteries. Non-critical diffuse narrowing of left common carotid artery. Normal right carotid artery. Patent stents in both renal arteries and aorto-iliac vessels.**



PRE PTA



## Interventional Management

### Procedure Steps

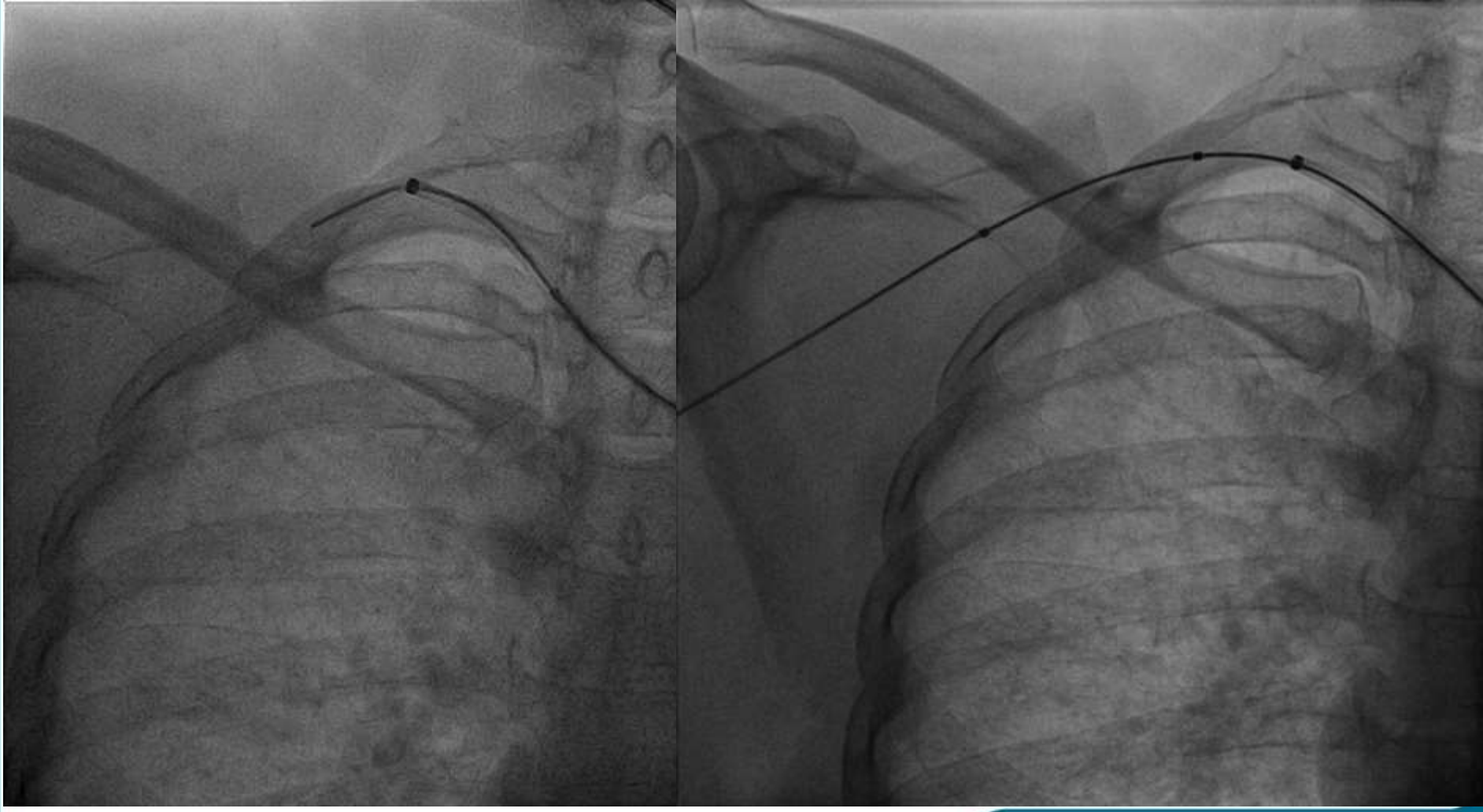
➔ Vascular Access- Right Femoral artery using 8F sheath. 7F long FLEXOR sheath was advanced upto proximal right subclavian artery and lesion was tried to cross using straight tip TERRUMO wire but failed. Guide catheter was thrown back with every attempt.

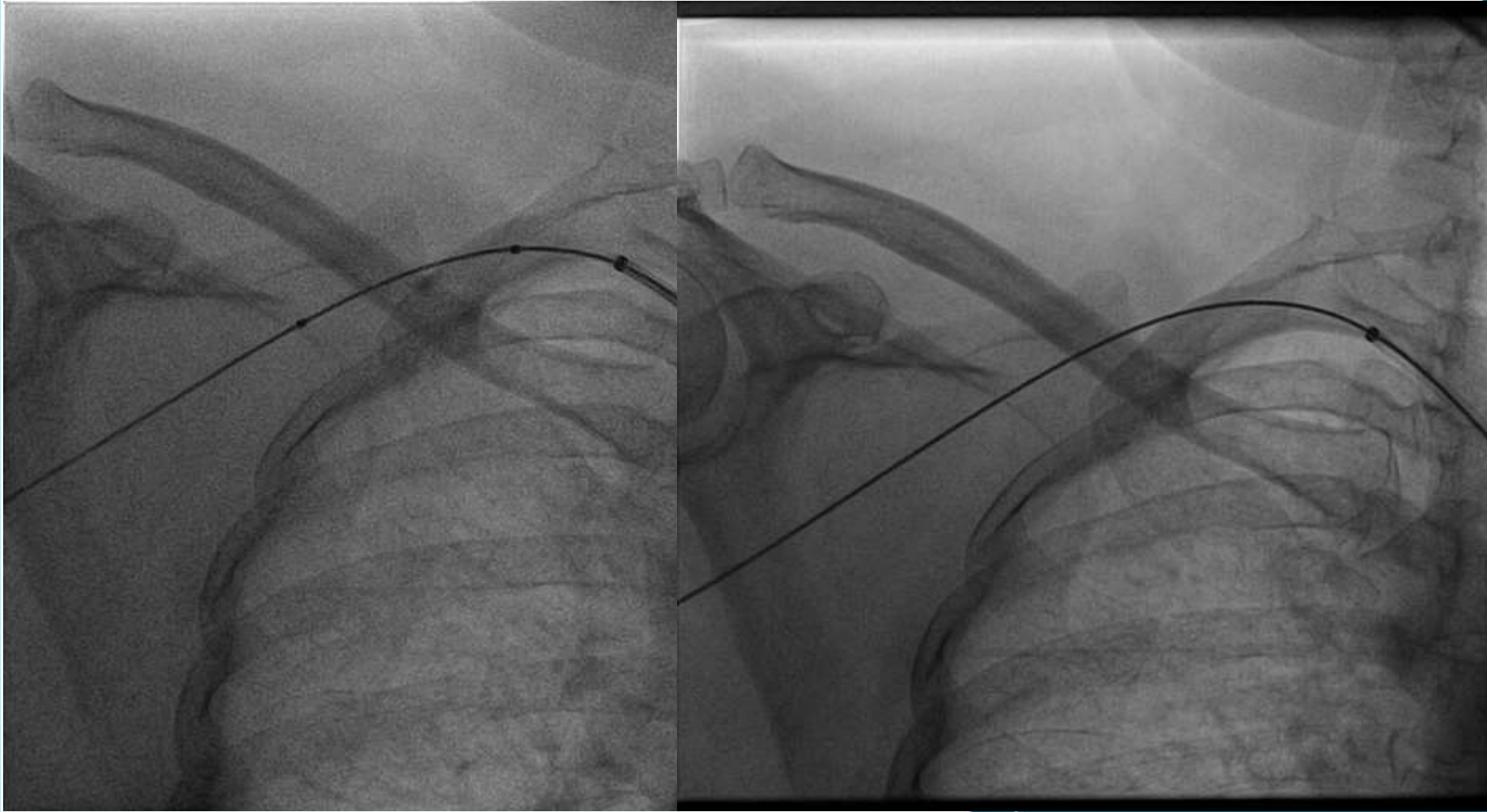
➔ A 5F JR catheter was advanced as a child catheter through 7F FLEXOR sheath (as mother catheter). Lesion was crossed with a straight tip 0.35 Teflon wire.

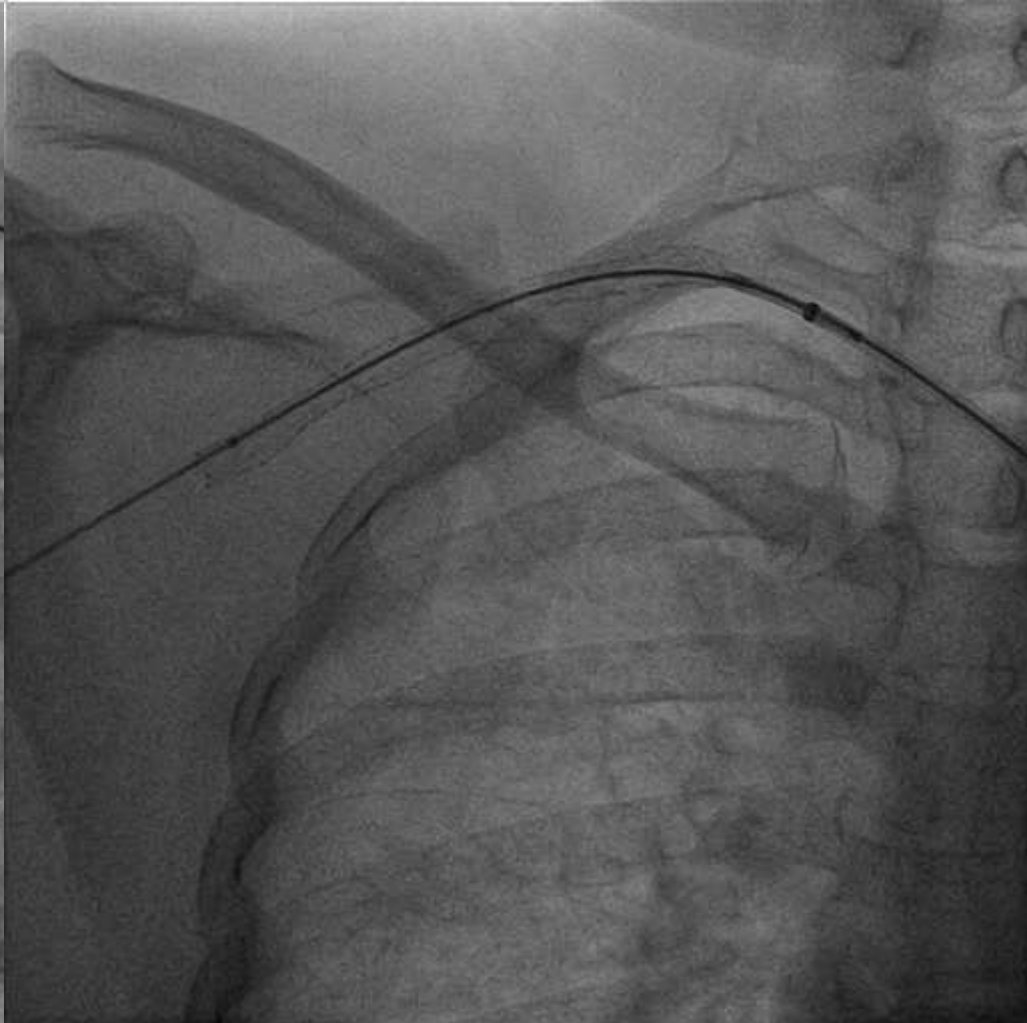
➔ Pre-dilated with 6.0x40mm ADMIRAL XTREME Balloon at high pressure (10atm). Lesion opened up well with localized intimal dissection.

➔ Stenting done using 9.0x80mm COMPLETE SE ILIAC self-expandable stent. Post-dilatation done using 6.0x40mm ADMIRAL XTREME Balloon.

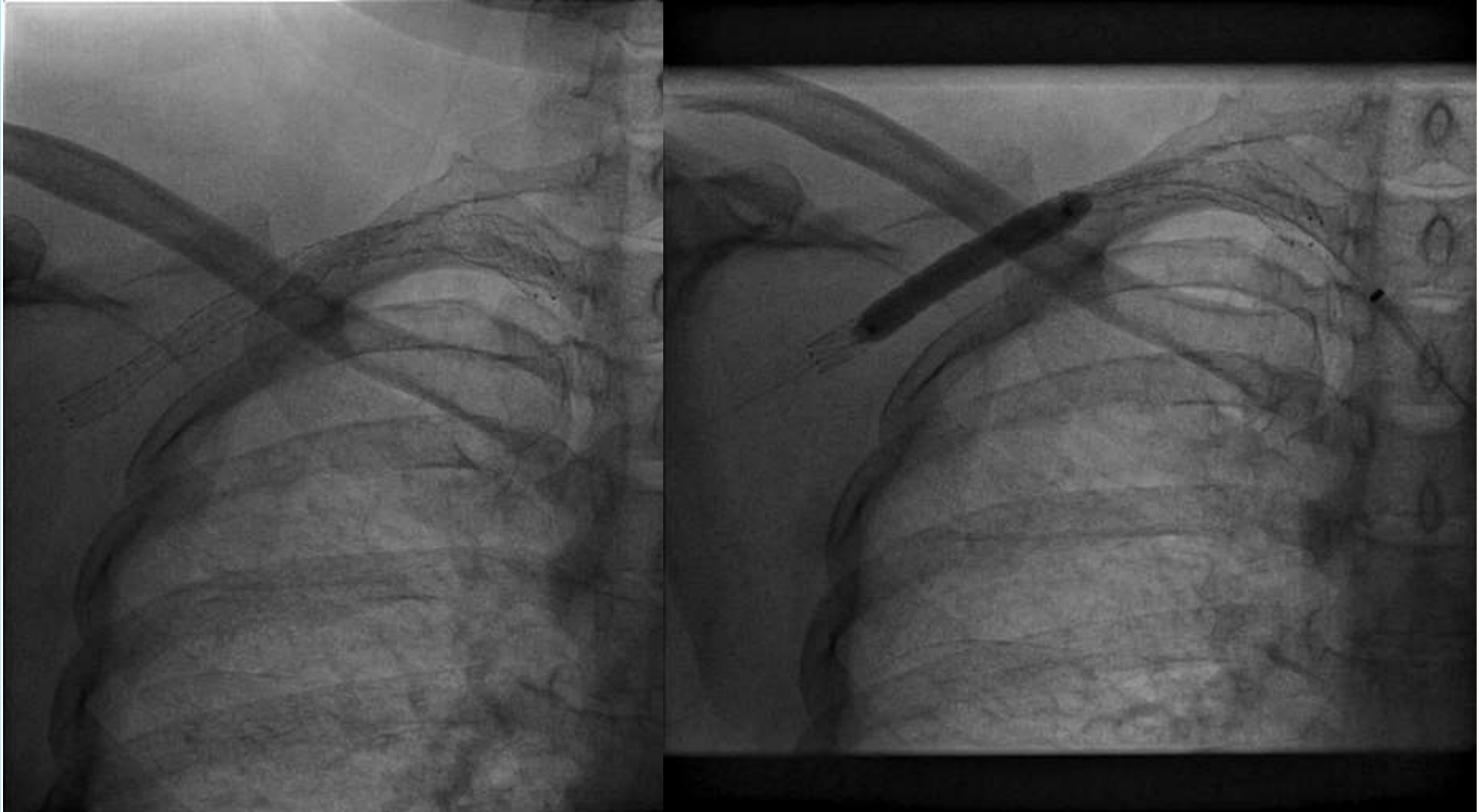
➔ Good post-procedural result with TIMI-3 distal flow. Contrast used 150ml Omnipaque. Total Fluoroscopy time was 12minutes and 25 seconds. Post-procedural recovery was uneventful.

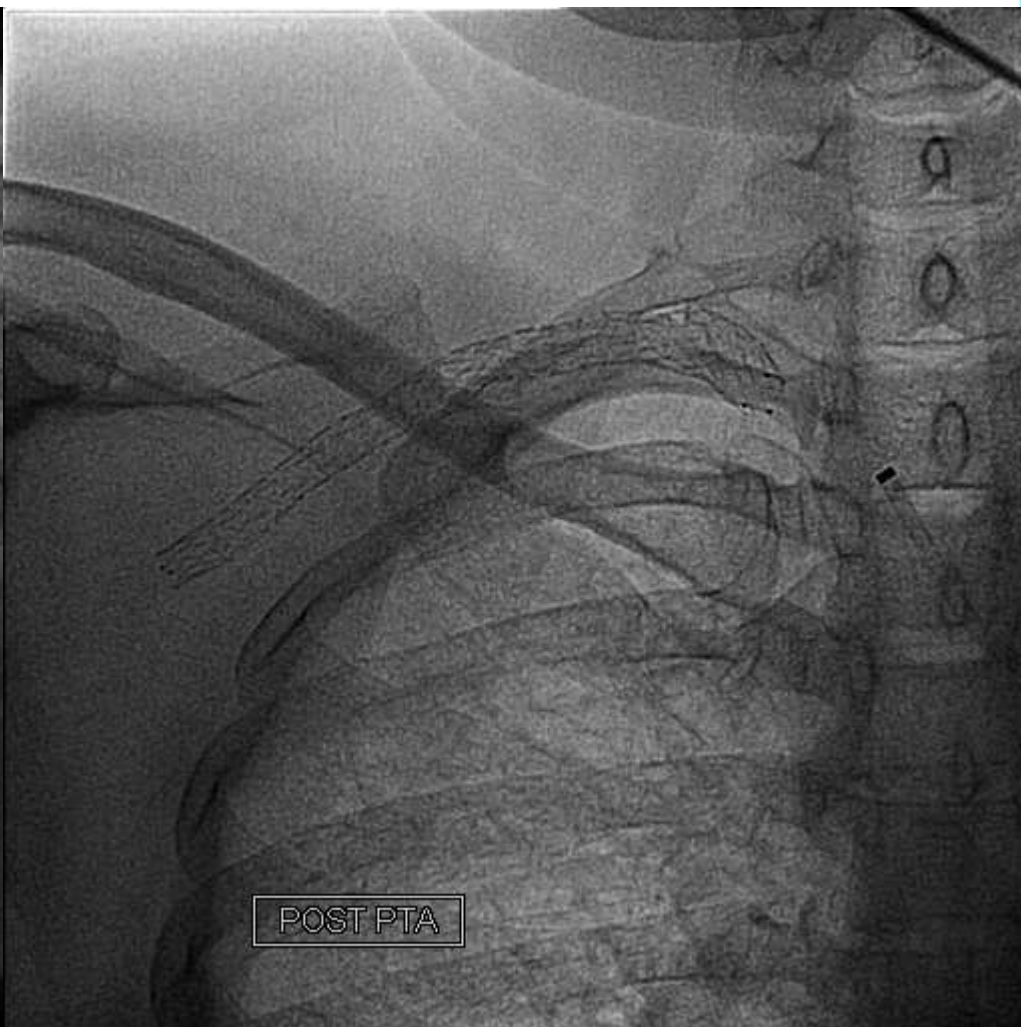
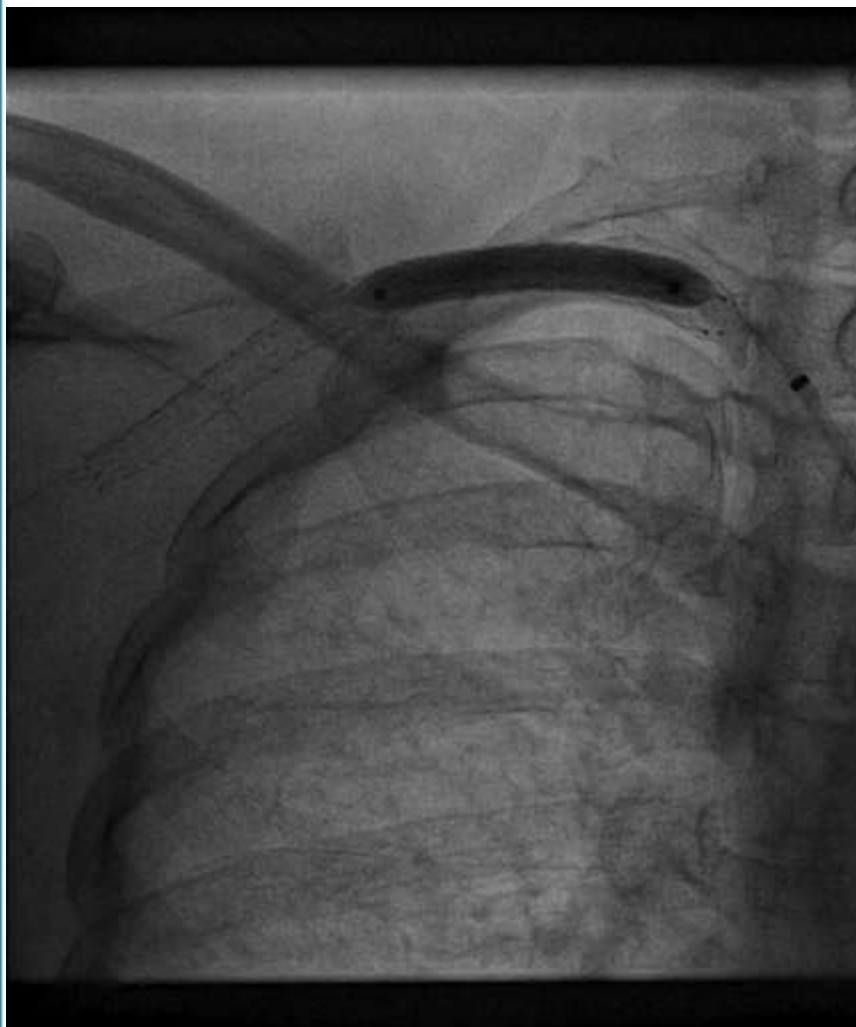












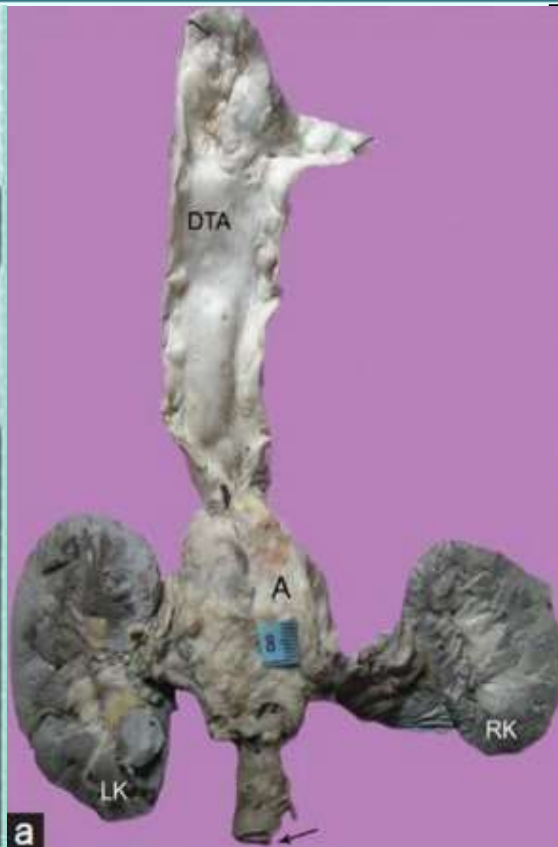
POST PTA

## **Conclusions**

- ➔ Takayasu arteritis is well known in South-East Asian countries including India.
- ➔ It has prolonged indolent course and can come back long after the index event with Vaso-occlusive symptoms. Regular monitoring of disease activity should be done .
- ➔ Activity limiting limb ischemia should be treated by revascularization procedures as in this patient. Lesions are densely fibrotic and usually non-yielding requiring high pressure dilatations and sometimes require cutting balloon dilatations specially in ostial lesions.
- ➔ Long term results are good if disease activity can be monitored and properly treated if required, with steroids with or without additive immunosuppressive agents.



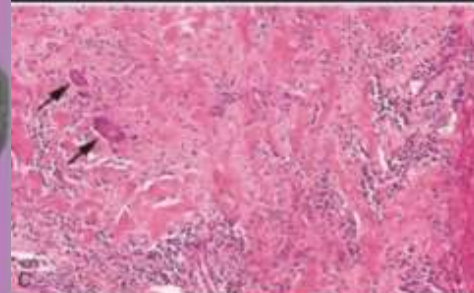
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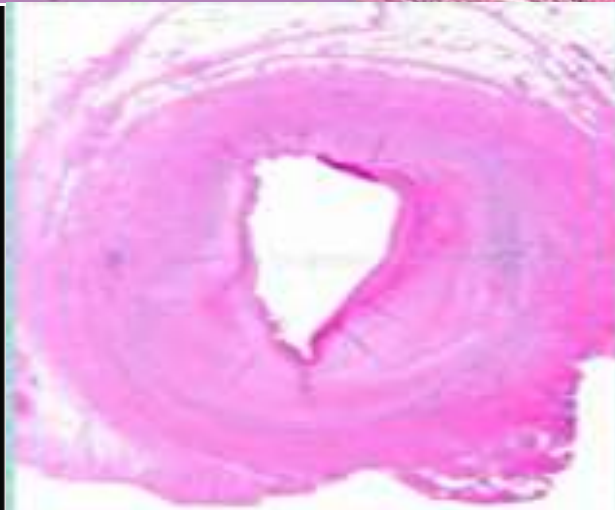
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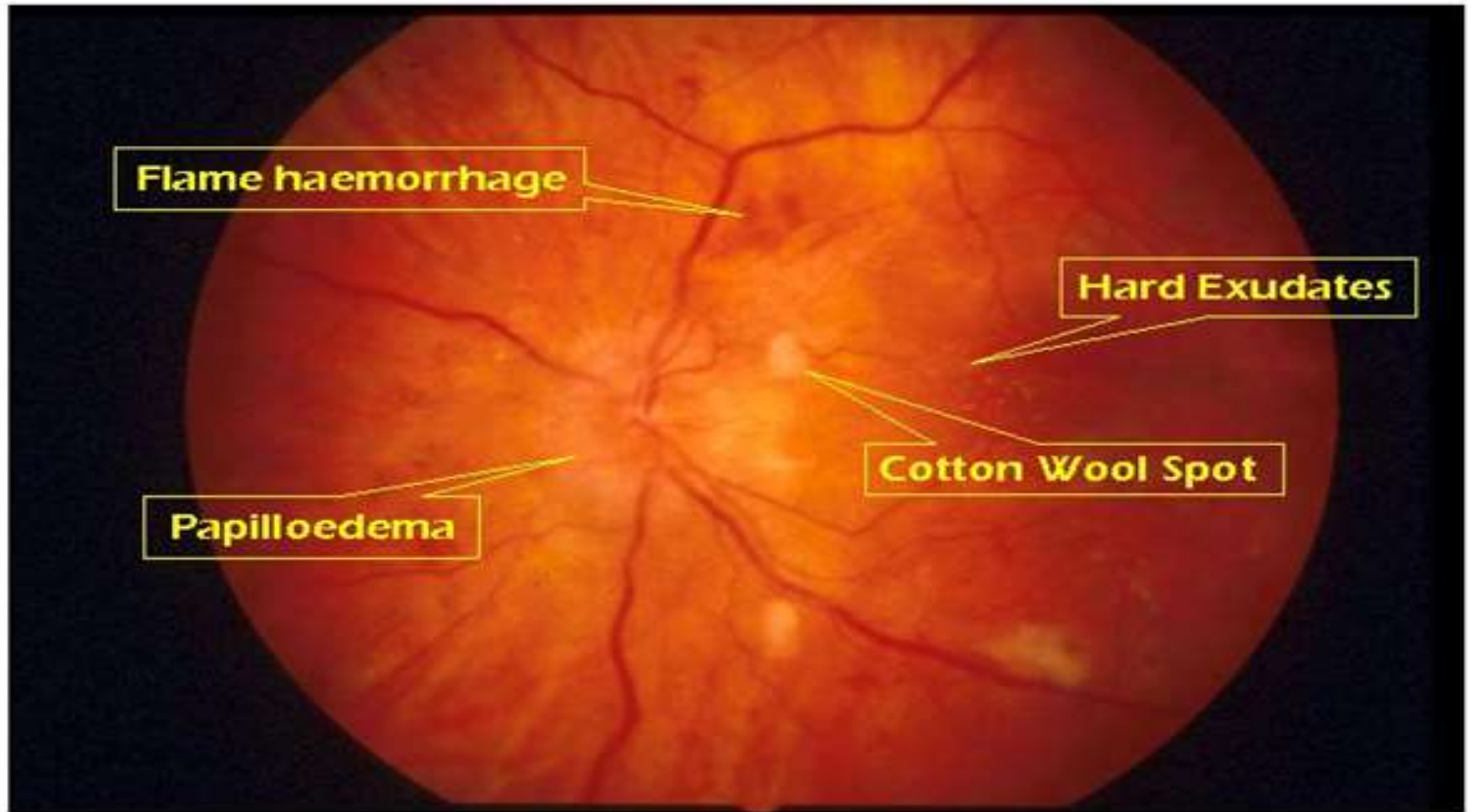


Granulomatous inflammation





# Hypertensive Retinopathy - Grade 4





**Thank you**