

Reason

Claudication

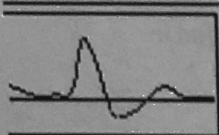
Outcome

Bowel gas, Stenosis Severe, Calcified

Right

140

1.00



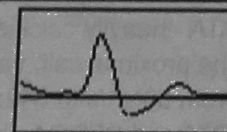
Good

Brachial

Left

Common Femoral

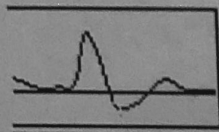
Good



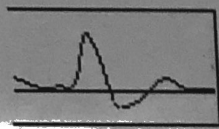
High Thigh

Low Thigh

Popliteal



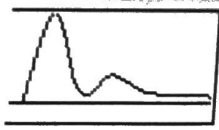
Good



Good

High Calf

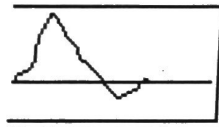
Peroneal



Good

Anterior Tibial

Absent



Slightly Reduced

200

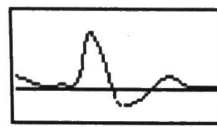
1.43

Posterior Tibial

Good

300

2.14



Dorsalis Pedis

Toe Pressure

Post Exercise

## Notes

## RIGHT LOWER LIMB ARTERIAL DUPLEX ASSESSMENT

Abdominal aorta was partially obscured by bowel gas interference. Where seen, appears patent with good bi/triphasic waveforms and PSV 135cm/s. The abdominal aorta appears of normal calibre (maximum AP = 2.2cm), with no evidence of focal dilatation or aneurysm identified.

## RIGHT

CIA - mild to moderate calcified disease, good biphasic waveforms, PSV 194cm/s.

EIA - mild to moderate calcified disease, good tri/biphasic waveforms, PSV 103-106cm/s.

CFA and PFA (origin) - mild calcified disease, good triphasic waveforms, psv 134cm/s and 69cm/s, respectively.

SFA - mild calcified disease along length, good tri/biphasic waveforms throughout, PSV ranging from 83-134cm/s.

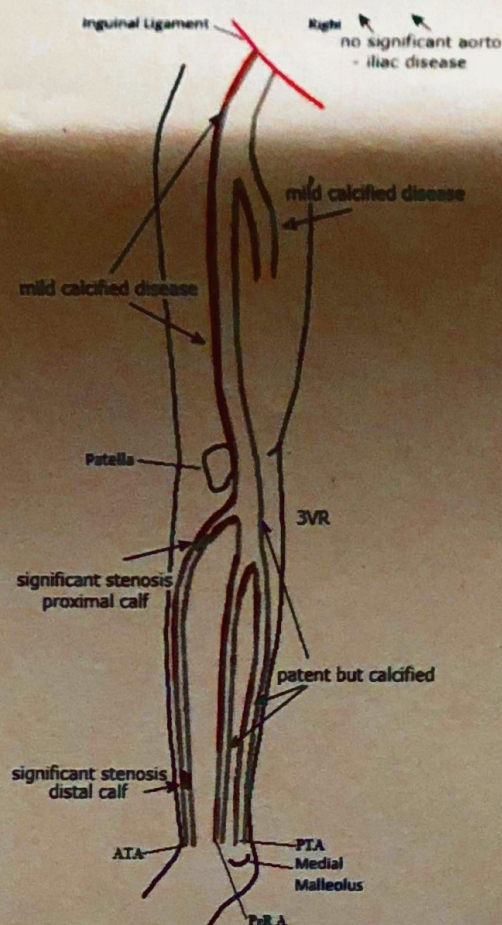
POPA - mild disease, good triphasic waveforms, PSV 89cm/s. TPT appears patent but calcified; origins of 3 vessel run-off noted.

ATA - heavily calcified along length with only intermittent areas of flow noted. Significant stenosis identified in the proximal calf, velocities increase from 54cm/s and 335cm/s and in the distal calf, velocities increase from 56cm/s to 349cm/s. Good monophasic waveforms at the ankle, PSV 120cm/s.

PTA and PEROA - heavily calcified along length with only intermittent areas of flow noted. Slightly reduced biphasic and good triphasic waveforms at the ankle, respectively.

(Left - CFA appears mild to moderately diseased, good triphasic waveforms. ATA appears occluded at the ankle. Slightly turbulent triphasic waveforms in the PTA at the ankle)

Bilateral resting ABPIs are falsely elevated (left more than right), exceeding normal limits, indicating calcification of crural arteries.



PTA - Posterior Tibial Artery ATA - Anterior Tibial Artery  
PeRA - Peroneal Artery



Reason

### Ulceration

### Outcome

Pseudoaneurysm, Occlusion, Calcified, Thrombus. Significant disease indicated

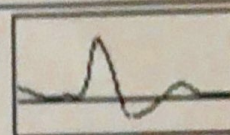
**Right**

Left

**Excluded**

### Common Femoral

Good

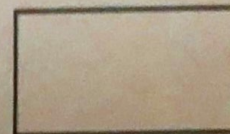


### High Thigh

Low Thigh

**Popliteal**

Absent



### High Calf

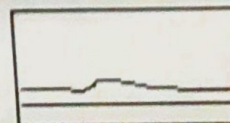
### Peroneal

Absent



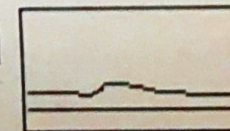
### Anterior Tibial

Weak



### Posterior Tibial

Weak



### Dorsalis Pedis

### Toe Pressure

### Post Exercise

## Notes

## LEFT LOWER LIMB ARTERIAL DUPLEX ASSESSMENT

Abdominal aorta is partially obscured by acoustic shadowing artefact from calcified vessel walls. Where seen, appears patent with good triphasic waveforms and PSV 82cm/s. Where seen, the abdominal aorta appears mildly ectatic (maximum AP = 2.6cm).

## LEFT

CIA - mild calcified disease, good triphasic waveforms, PSV 85cm/s.



EIA - mild to moderate calcified disease, good triphasic waveforms throughout, PSV 128-177cm/s.

CFA - moderate calcified disease, good triphasic waveforms, PSV 117cm/s.

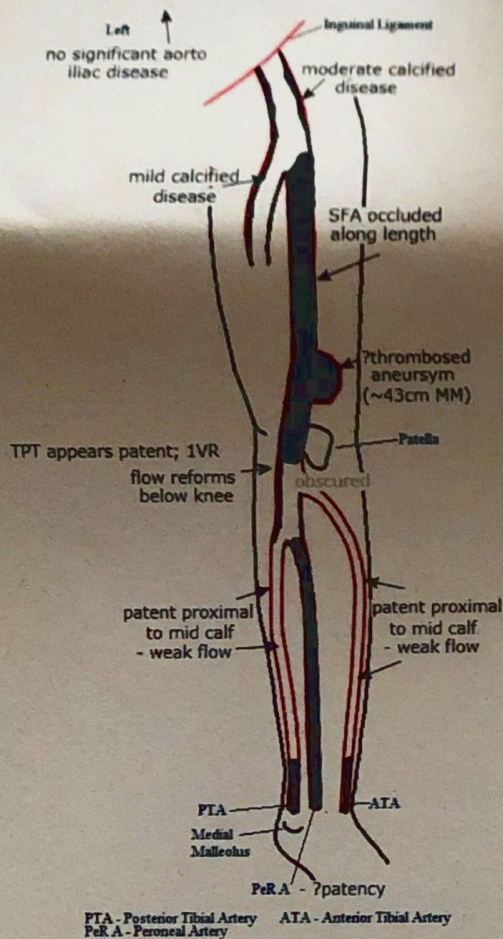
PFA (origin) - mild calcified disease, good monophasic waveforms, PSV 136cm/s.

SFA - appears occluded along its length, echolucent material identified within the lumen of the vessel ?thrombus. Flow does not reform above the knee. There is a focal dilation of the distal SFA, with no flow identified within the lumen (~43 from medial malleolus, MM), maximum AP diameter measures 1.7cm. POPA - proximal POPA appears occluded. A collateral vessel reforms flow into the below knee popliteal artery, weak monophasic waveforms, PSV 20cm/s. TPT appears patent; origin of at least 1 vessel run-off noted.

ATA - appears patent in the proximal to mid calf, weak monophasic waveforms, PSV 8-12cm/s. Appears occluded at the ankle.

PTA - appears patent in the proximal to mid calf, weak monophasic waveforms, PSV 23-34cm/s. Appears occluded at the ankle.

Resting ABPIs not attempted due to significant ulceration to left distal calf.



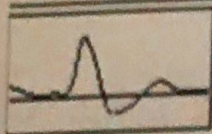


Reason  
Outcome

Rest pain  
Occlusion, Thrombus, Stenosis Severe. Significant disease indicated

Right

190 1.00



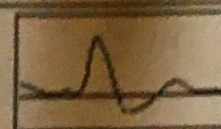
Good

Brachial

Common Femoral

Good

Left



High Thigh

Low Thigh

Popliteal

High Calf

Peroneal

Absent

Absent

Weak

Absent

Anterior Tibial

Posterior Tibial

Dorsalis Pedis

Toe Pressure

Post Exercise

## Notes

### RIGHT LOWER LIMB ARTERIAL DUPLEX ASSESSMENT

Abdominal aorta is patent with mild to moderate dense and calcified disease and good mono/triphasic waveforms, PSV 82cm/s. The abdominal aorta appears of normal calibre (maximum AP = 1.7cm), with no evidence of focal dilatation or aneurysm identified.

#### RIGHT

CIA - patent proximally, good mono/triphasic waveforms, PSV 97cm/s. Distal section is obscured by



acoustic shadowing artefact.

EIA - mild disease, good triphasic waveforms, PSV 115-139cm/s.

CFA - mild to moderate disease, good triphasic waveforms, PSV 180cm/s.

PFA (origin) - moderate disease, just triphasic waveforms, PSV 256cm/s.

SFA - origin and very proximal SFA appears mild to moderately diseased, slightly turbulent triphasic waveforms, PSV 109cm/s. Significant stenosis identified in the proximal thigh (~65cm from medial malleolus, MM), velocities increase from 83cm/s to 489cm/s, falling to 87cm/s, post stenotic turbulent monophasic waveforms distal to the stenosis. Diffuse moderate disease identified in the mid SFA, monophasic waveforms, PSV 67-121cm/s. SFA occludes in the distal thigh (~50cm from MM), echolucent plaques identified within the lumen of the vessel (?thrombus). Flow does not reform above the knee.

POPA and TPT - appear occluded.

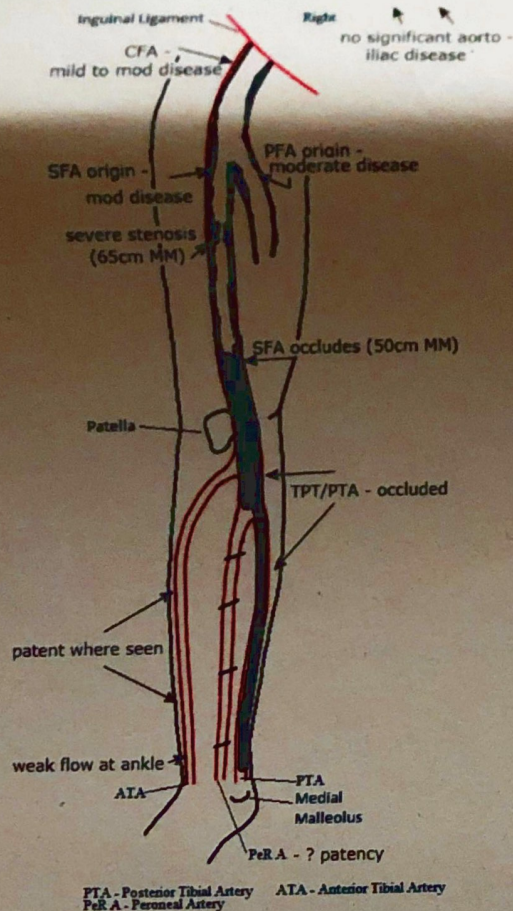
ATA - weak monophasic waveforms identified at the ankle.

PTA - appears occluded along its length.

PeroA - not identified ?patency.

(Left CFA - slightly turbulent triphasic waveforms. ATA and PTA - good monophasic waveforms at the ankle).

Resting ABPIs were not obtained due to patient's limited tolerance.



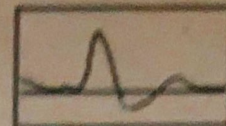


Right

Left

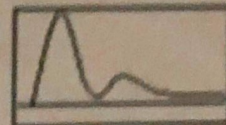
Brachial

Good



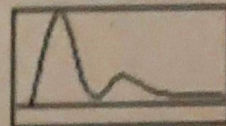
Radial

Good



Ulnar

Good



Post Exercise

### Notes

LEFT UPPER LIMB ARTERIAL DUPLEX - ?brachial artery pseudoaneurysm

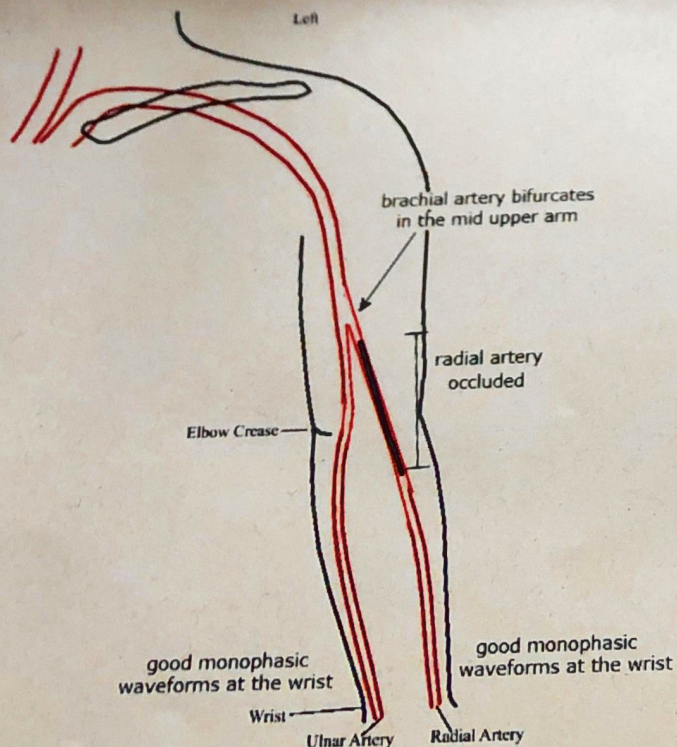
Axillary artery - appears patent, good triphasic waveforms.

Brachial artery - bifurcates in the mid upper arm, good monophasic waveforms.

Radial artery - occludes just beyond its origin in the mid upper arm. Flow reforms in the proximal forearm.

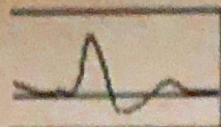
Remainder of radial artery appears patent to the wrist, good monophasic waveforms.

Ulnar artery - patent along its length, good monophasic waveforms at the wrist.





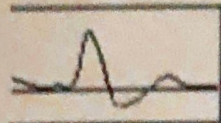
Right



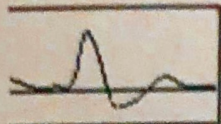
Good

100

1.00



Good



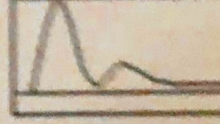
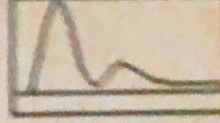
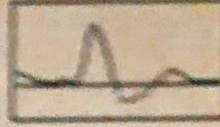
Good

Brachial

Good

150

0.94



Radial

Good

Ulnar

Good

Post Exercise

## Notes

### BILATERAL UPPER LIMB ARTERIAL DUPLEX.

#### Right

Subclavian artery - widely patent, no evidence of intimal damage, plaque morphology or aneurysm - PSV 191cm/s to 86cm/s, good bi/triphasic waveforms.

Axillary artery - widely patent, PSV 101cm/s, good biphasic waveforms.

Brachial artery - widely patent, tortuous in the mid to distal upper arm, PSV 86cm/s (proximal), 187cm/s (mid), 147cm/s (distal), good bi/triphasic waveforms.

Radial and ulnar arteries - widely patent throughout, good triphasic waveforms at the wrist.

#### Left -

Subclavian artery - widely patent, no evidence of intimal damage, plaque morphology or aneurysm - PSV 144cm/s to 121cm/s, good bi/triphasic waveforms.

Axillary artery - widely patent, PSV 76cm/s, good triphasic waveforms.

Brachial artery - bifurcates in the proximal upper arm, good triphasic waveforms.

Radial and ulnar arteries - challenging to visualise in the proximal forearm due to cannula placement and dressings, where seen appear patent with good hyperaemic/monophasic waveforms at the wrist.



## Clinical History

pain left leg on walking Weak pulses ? stenotic disease

## US Doppler lower limb arteries Lt:

Aorta - mild/moderate disease, just triphasic waveforms. Aorta is of normal and uniform calibre (AP: 1.3cm)

CIA - largely obscured by overlying bowel gas interference - where seen, at least moderate disease, mono/biphasic waveforms, PSV 97cm/s.

EIA - mid section of vessel is obscured. Mild/moderate disease in the proximal vessel, waveforms, PSV 98cm/s. Velocities increase to 579cm/s in the distal section, falling to 261cm/s distally - images are indicative of a significant stenosis.

CFA - mild/moderate disease, biphasic waveforms, PSV 44cm/s.

PFA (origin) - mild disease, monophasic waveforms, PSV 43cm/s.

SFA - patent with mild to moderate disease, biphasic waveforms throughout, PSV 61cm/s (proximal

thigh), 106-146cm/s (mid thigh) and 33-49cm/s (distal thigh).

POPA - mild disease, monophasic waveforms, PSV 38cm/s. TPT is patent; origins of 3 vessel run-off noted.

ATA and PTA - patent, biphasic and monophasic waveforms at the ankle, respectively.

Pero A - damped monophasic waveforms at the ankle.

## **CONCLUSION: Significant stenosis in the left distal EIA.**

Additional comments: Avascular, mixed echogenicity mass identified in the left medial popliteal fossa - images are indicative of a Baker's cyst.

*Scanned and reported by G. K. Ross*



**Clinical History :**

Right 5th MTH ulcer now healed , difficult foot pulses

Left first to ? orthopaedic op,

Please exclude significant disease

Hypertension and Hyperlipidaemia

Right 5th MTH ulcer now healed , difficult foot pulses

Left first to ? orthopaedic op,

Please exclude significant disease

Hypertension and Hyperlipidaemia

US Doppler lower limb arteries Rt:

CFA and PFA (origin) - mild disease, good triphasic and good biphasic waveforms, PSV 79cm/s and 59cm/s, respectively.

SFA - mild calcified disease, good biphasic waveforms throughout, PSV ranging from 75-89cm/s.

POPA - mild to moderate calcified disease, good triphasic waveforms, PSV 66-55cm/s. TPT is patent but significantly calcified; origins of 3 vessel run-off identified.

ATA and PTA - patent but heavily calcified along length, good bi/triphasic waveforms, PSV 64cm/s and 79cm/s at the ankle, respectively.

US Doppler lower limb arteries Lt:

CFA and PFA (origin) - mild disease, good triphasic, PSV 102cm/s and 48cm/s, respectively.

SFA - mild calcified disease, good biphasic waveforms throughout, PSV ranging from 89-105cm/s.

POPA - mild to moderate calcified disease, good bi/triphasic waveforms, PSV 67-72cm/s. TPT is patent but significantly calcified; origins of at least 2 vessel run-off identified.

ATA - patent but significantly calcified in the proximal to mid calf, good biphasic waveforms, PSV 37-40cm/s. Unable to identify flow at the ankle ?heavily calcified.

PTA - patent but heavily calcified along length, good triphasic waveforms, PSV 97cm/s at the ankle.

Conclusion: No evidence of significant arterial disease in the right or left proximal lower limbs.  
Evidence of crural vessel calcification, bilaterally.



**Clinical History :**

T2DM, right 2nd toe non-healing ulceration and osteomyelitis with opening toe pressure 38mmHg  
Previous angio Aug 2018 with iliac stent and crural PTA and good clinical result. Wifl high risk  
amputation, high benefit revascularisation. Has already been delayed as initial request rejected by  
radiologist with letter sent but no direct communication with requesting clinician. Duplex to assess iliac  
stent has been requested whilst awaiting an angio date. DATE ASAP PLEASE. HIGH RISK OF  
AMPUTATION.

**US Doppler lower limb arteries Rt:**

Aorta - heavily calcified, biphasic waveforms, PSV 148cm/s. Aorta appears of normal and uniform  
calibre.

CIA and EIA - challenging to visualise due to overlying bowel gas obscuring parts of the image, iliac  
stent not clearly seen. Where seen, good biphasic waveforms in the CIA and EIA, PSV 229cm/s  
(proximal CIA) and 254cm/s (distal EIA).

CFA - moderate disease, good biphasic waveforms, PSV 185cm/s.

PFA (origin) - significantly diseased, biphasic waveforms, PSV 366cm/s.

SFA - moderate disease in the proximal SFA, biphasic waveforms, PSV 299cm/s. Mid to distal SFA is  
moderate/significantly calcified with multiple obscured regions, biphasic waveforms, PSV 159cm/s  
(mid) and 128cm/s (distal).

POPA - mild/moderate disease, good triphasic waveforms, PSV 194cm/s to 122cm/s. TPT is patent  
but small calibre and calcified, PSV 142-168cm/s; origins of 3 vessel run-off noted.

ATA and PTA - heavily calcified, good monophasic waveforms, PSV cm/s and cm/s at the ankle.

**CONCLUSION:** Where seen, good flow through the CIA and EIA, good biphasic waveforms. Good  
biphasic waveforms in the CFA and good monophasic waveforms at the ankle.



**Clinical History :**

Poor English Painful lower legs Smoker Very prominent popliteal arteries ? aneurysmal Has DP and PT pulses . Prev gastrojejunostomy. Please assess

Poor English Painful lower legs Smoker Very prominent popliteal arteries ? aneurysmal Has DP and PT pulses . Prev gastrojejunostomy. Please assess

**US Doppler lower limb arteries bilateral:**

Right and left common femoral, profunda femoral (origins), superficial femoral and popliteal arteries are patent with good triphasic waveforms throughout.

Good triphasic waveforms in the right and left anterior tibial and posterior tibial arteries at the ankle.



### **Clinical History :**

Trauma to left leg 12/12 ago. Wound failed to heal. Calcified arteries left leg. LSV reflux on HHD. R/o arterial component and patient has probable CVI.

Trauma to left leg 12/12 ago. Wound failed to heal. Calcified arteries left leg. LSV reflux on HHD. R/o arterial component and patient has probable CVI.

### **US Doppler lower limb arteries Lt:**

Minimal mild disease in the common femoral, profunda femoral (origin), superficial femoral and popliteal arteries with good triphasic waveforms throughout.  
Calcified disease in the anterior tibial and posterior tibial arteries, good biphasic waveforms at the ankle.

### **US Doppler lower limb veins Lt:**

All visualised deep veins are patent, competent (apart from isolated incompetent flow in the common femoral vein) and compressible.  
SFJ is patent and competent. LSV becomes incompetent in the distal thigh and remains incompetent to the ankle.  
SPJ is patent and slightly incompetent. Non-occlusive chronic superficial thrombophlebitis noted in the SSV. Posterior calf superficial veins communicate with the mid calf SSV.



## Clinical History

pain in right forefoot (bilateral but right is worse) Palpable right femoral pulse but no distal pulses felt on right foot. Doppler present but decreased amplitude right foot. ABPI 0.8 on right. non-smoker. borderline DM, please assess for any significant arterial disease in right leg

## US Doppler lower limb arteries Rt:

Common femoral, profunda femoral (origin), superficial femoral and popliteal arteries are widely patent, good triphasic waveforms throughout. TPT is patent; origins of 3 vessel run-off noted. Good triphasic waveforms in the anterior tibial, posterior tibial and peroneal arteries at the ankle.



## Clinical History :

IC right leg. SFA occl clinically. ABPI 0.55

## US Doppler lower limb arteries Rt:

CFA - moderate disease, good triphasic waveforms, PSV 240cm/s.

PFA (origin) - mild disease, good triphasic waveforms, PSV 186cm/s.

SFA - origin is mildly diseased. Diffuse moderate disease identified in the proximal SFA, velocities increase from 145cm/s to 281cm/s (velocity ratio = 1.9). Remainder of SFA is mild to moderately diseased, good biphasic waveforms, PSV 99cm/s to 77cm/s.

POPA - mildly diseased, good biphasic waveforms, PSV 50cm/s to 54cm/s. TPT appears patent; origins of 3 vessel run-off noted.

ATA, PTA and PEROA - good biphasic waveforms in the anterior tibial and posterior tibial arteries at the ankle. Weak biphasic waveforms in the peroneal artery at the ankle.



### **Clinical History**

Admitted on 29/10/19 with sudden onset L leg weakness/numbness. Thrombus in L CFA on CTA

Needs urgent USS please to assess thrombus and flow in CFA - ? any significant stenosis to vessel

Thank you

### **US Doppler lower limb arteries Lt:**

Common femoral artery is small calibre with moderate disease proximally, monophasic waveforms. PSV 282cm/s. An area of irregular flow identified in the distal common femoral artery which was poorly visualised due to poor tissue resolution, velocities increase to 303cm/s. Profunda femoral artery not identified. Superficial femoral artery is small calibre along length, mild to moderately diseased, monophasic waveforms throughout. Popliteal artery is small calibre, mildly diseased, triphasic/monophasic waveforms. TPT is patent; origins of 3 vessel run-off noted. Biphasic waveforms in the anterior tibial artery at the ankle. Monophasic waveforms in the posterior tibial artery at the ankle.

**Conclusion:** Raised velocities noted throughout the distal external iliac and common femoral artery. There is an area of irregular flow in the distal common femoral artery - this could be due to the focal area of thrombus seen on CTA but this was not clearly visualised using ultrasound.



## Clinical History :

70M referred as right calf pain

on review in clinic today, has right shin pain with anterior group of muscles affected most commonly

ABPI of 0.8 with b/l biphasic DPA & PT.

right foot cold to touch compared to left

some engorged veins noted in mid calf area

USS lower limb veins to look for evidence of varicose veins

USS L/L arteries to look for evidence of PVD

## US Doppler lower limb arteries Rt:

Common femoral, profunda femoral (origin), superficial femoral and popliteal arteries appear patent with good triphasic waveforms throughout. TPT appears patent; origins of 3 vessel run-off noted. Good triphasic waveforms in the anterior tibial and posterior tibial arteries at the ankle.



### Clinical History :

Burning sensation both feet often bright red no tissue loss no true IC, ABPI 0.7 Good DPs poorer PTs  
Pallor on elevation Smoker Not DM ? Raynauds + ? erythromelalgia ? vasculitis

Burning sensation both feet often bright red no tissue loss no true IC, ABPI 0.7 Good DPs poorer PTs  
Pallor on elevation Smoker Not DM ? Raynauds + ? erythromelalgia ? vasculitis

### US Doppler lower limb arteries Rt:

Mild disease in the common femoral, profunda femoral (origin) and superficial femoral and popliteal arteries, good tri/biphasic waveforms. Anterior tibial artery is patent in the proximal to mid calf, not identified in the distal calf. Good biphasic waveforms in the posterior tibial and peroneal arteries.

### US Doppler lower limb arteries Lt:

Moderate disease in the common femoral artery, good triphasic waveforms. Mild disease in the profunda femoral (origin), superficial femoral and popliteal arteries, good tri/biphasic waveforms. Good biphasic waveforms in the anterior tibial, posterior tibial and peroneal arteries.

**Clinical History :**

Pain and numbness both lower limbs. Palpable bilateral femoral pulses but no distal pulses felt. Reduced ABPIs (GP measured 0.68 on R and un-measurable on L). I measured them twice - 1st R 0.64, L 0.49. 2nd - R- 0.44, L - 0.49. I do think that most likely this lady's symptoms may be related to spinal canal stenosis/radicular nerve compression rather than arterial disease but I cannot explain her low ABPIs.

**US Doppler lower limb arteries Rt:**

CFA and PFA (origin) - mild disease, good triphasic waveforms, PSV 145cm/s and 142cm/s, respectively.

SFA - diffuse moderate disease in the proximal thigh, good just triphasic waveforms, PSV 172 - 227cm/s. Mid SFA is mildly diseased, good triphasic waveforms, PSV 70cm/s. Distal SFA/adductor canal is severely stenosed, velocities increase from 50cm/s to at least 375cm/s ( $375/50=7.5$ )

POPA - proximal section appears moderate to significantly diseased, reduced monophasic waveforms, PSV 64cm/s. Distal section appears mild to moderately diseased, reduced monophasic waveforms.

PSV 48cm/s. TPT appears patent; origins of 3 vessel run-off noted.

ATA and PTA - reduced monophasic waveforms at the ankle, PSV 34cm/s and 29cm/s at the ankle, respectively.

**US Doppler lower limb arteries Lt:**

CFA and PFA (origin) - mild disease, good triphasic waveforms, PSV 117cm/s and 210cm/s, respectively.

SFA - diffuse mild to moderate disease in the proximal thigh, good monophasic waveforms, PSV 56cm/s. SFA occludes in the proximal - mid thigh. A collateral vessel reforms flow into a mild to moderately diseased distal SFA, PSV 24-41cm/s.

POPA - mild to moderately diseased, reduced monophasic waveforms, PSV 33-64cm/s. TPT appears patent; origins of 2 vessel run-off noted.

ATA - reduced monophasic waveforms at the ankle, PSV 35cm/s at the ankle.

PTA - appears occluded at the ankle.

**Conclusion: Right distal SFA/adductor canal appears significantly stenosed (velocity ratio = 7.5). Left mid SFA appears occluded.**



**Clinical History :**

20 yard left calf IC. Struggling with daily tasks. Is there a reasonable option for angioplasty? Max Troxler

**US Doppler lower limb arteries Lt:**

CFA - moderate calcified disease, good triphasic waveforms, PSV 192cm/s.

PFA (origin) - mild disease, good monophasic waveforms, PSV 322cm/s.

SFA - heavily calcified throughout, only intermittent areas of flow identified, reduced monophasic waveforms, PSV 67cm/s (proximal), 34cm/s (mid) and 49cm/s (distal). Large collateral vessel improves flow into the very distal SFA.

POPA - mild to moderate disease, reduced monophasic waveforms, PSV 53-56cm/s. TPT appears patent; origins of 3 vessel run-off noted.

ATA - appears occluded at the ankle.

PTA - reduced monophasic waveforms at the ankle.

**Conclusion:** Significant calcified disease along the length of the SFA.

**Clinical History :**

pain in legs on walking. Palpable femoral pulses, nil distally. ABPI 0.85 right. 1.0 left but absent AT/DP ? PVD

**US Doppler lower limb arteries Right:**

Mild to moderate calcified disease in the common femoral artery, good triphasic waveforms. Mild disease in the SFA, PFA (origin) and popliteal arteries, good biphasic waveforms throughout. TPT appears patent; origins of 3 vessel run-off noted. Good biphasic waveforms in the anterior tibial and posterior tibial arteries at the ankle.

Additional comments: avascular, mixed echogenicity mass identified in the right medial popliteal fossa, images are suggestive of Baker's cyst.

**US Doppler lower limb arteries Lt:**

Mild to moderate calcified disease in the common femoral artery, good just triphasic waveforms. Mild

disease in the SFA, PFA (origin) and popliteal arteries, good biphasic waveforms throughout. TPT appears patent; origins of 3 vessel run-off noted. Good biphasic waveforms in the anterior tibial and posterior tibial arteries at the ankle.



Clinical History :

Rt calf IC short distance Rt TKR DM CT shows post CFA plaque nd prox SFA popa not well seen 2 vessel run off AT occludes mid calf Please assess CFA ans prox SFA flow and PopA thanks

US Doppler lower limb arteries Rt:

CFA - moderate to significant calcified disease, slightly reduced monophasic waveforms, PSV 93cm/s.

Waveforms are suggestive of more proximal iliac disease.

PFA (origin) - largely obscured due to acoustic shadowing from calcified plaques. Where seen,

velocities appear elevated. PSV increase from 159cm/s in the distal CFA to 233cm/s at the PFA origin.

suggestive of a moderate stenosis. Proximal PFA appears patent, reduced monophasic waveforms,

PSV 69cm/s.

SFA - velocities increase from 159cm/s in the distal CFA to 347cm/s at the SFA origin, indicative of a

significant stenosis. Diffuse mild to moderate disease in the remainder of the SFA, turbulent monophasic waveforms, PSV 66cm/s (proximal) and reduced monophasic waveforms, PSV 39cm/s (mid) and 37cm/s (distal).

POPA - appears significantly calcified and partially obscured by acoustic shadowing artefact, reduced monophasic waveforms, PSV 26-15cm/s. TPT and calf vessel origins were not identified due to depth and poor image resolution.

ATA - appears occluded at the ankle.

PTA - calcified disease, reduced monophasic waveforms at the ankle.

Conclusion: CFA waveforms are suggestive of more proximal iliac disease. Significant SFA origin stenosis. POPA appears significantly calcified.

Clinical History :

66F presented with occasional foot cramps with no rest pain

GP referral as had an increased ABPI on right side 1.4 from a previous reading of 1.0  
reviewed in clinic

ABPI 1.22

Had episodes of left leg venous ulcers which have healed completely

USS b/l lower limb arteries required to look for any further evidence of PVD and management planning

US Doppler lower limb arteries Bilateral:

Good triphasic waveforms throughout the right and left common femoral, profunda femoral (proximal thigh), superficial femoral and popliteal arteries. Good triphasic waveforms in the right and left anterior tibial, posterior tibial and peroneal arteries at the ankle.



**Clinical History**

78, M

**Background**

Jehovah's Witness

Diffuse motor nerve conduction abnormality with known left foot drop

Type II diabetes mellitus with neurological complications

Lumbosacral plexus neuropathy

Primary gout

Benign prostatic hyperplasia

**Issue**

Right 1st toe gangrenous patch since December 2019

Asymptomatic (denies rest pain)

Lives with wife

Mobilize with stick

Does not smoke

**Examination**

Sunset foot

Right femoral palpable

Left fem and pop palpable

No toe pressure wave on right.

Creat 153 Egfr 38 July 2019, Hb 137

Need very Urgent Arterial Duplex

US Doppler lower limb arteries Rt:

CFA - mild/moderate calcified disease, good triphasic waveforms, PSV 156cm/s.

PFA - mild disease, good triphasic waveforms, PSV 198cm/s.

SFA - mild disease in the proximal to mid thigh, slightly reduced triphasic waveforms, PSV 56cm/s to 24cm/s. Mid SFA is occluded for a length of ~6cm. Flow reforms in the mid-distal SFA, PSV 89cm/s, reduced monophasic waveforms. Weak monophasic waveforms in the distal SFA, PSV 29cm/s.

POPA - mild/moderate disease proximally, weak monophasic waveforms, PSV 21cm/s. Distal POPA appears significantly diseased with only a narrow channel of flow identified, weak monophasic waveforms, PSV 15cm/s. TPT appears partially obscured by acoustic shadowing from heavily calcified vessel walls, where seen appears significantly diseased; origin of at least 1 vessel run-off noted.

ATA and PTA - weak monophasic waveforms at the ankle.

Conclusion: Mid SFA is occluded for ~6cm.

## US Doppler lower limb arteries Lt:


Aorta - mild disease, good biphasic waveforms, PSV 77cm/s. Abdominal aorta appears of normal and uniform calibre.

CIA - mild/moderate disease, slightly turbulent biphasic waveforms, PSV 84cm/s (proximal). Velocities increase to 221cm/s in the mid CIA - images are indicative of a moderate focal stenosis. Remainder of a CIA appears mildly diseased, good biphasic waveforms.

EIA - moderate calcified disease, good biphasic waveforms, PSV 61cm/s.

CFA - mild disease, good biphasic waveforms, PSV 108cm/s.

PFA (origin) - mild disease, good biphasic waveforms, PSV 257cm/s.

 SFA - mild/moderate calcified disease at the origin, good biphasic waveforms. There is a significant stenosis in the proximal SFA, velocities increase from 52cm/s to 261cm/s (total length of disease ~0.6cm), velocities are indicative of a significant stenosis. Remainder of SFA appears mild to moderately diseased, biphasic waveforms, PSV 44-50cm/s.

POPA - mild disease, good biphasic waveforms, PSV 50cm/s. TPT appears patent; origins of 3 vessel run-off noted.

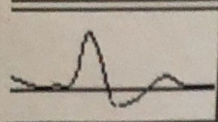
ATA and PTA - good biphasic waveforms at the ankle.



Reason	Claudication, Ischaemia
Outcome	disease severe, Occlusion, Significant disease indicated

Right

170 1.00



Good

Brachial

Common Femoral

Absent

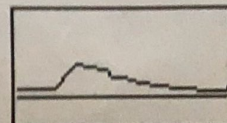
Left

High Thigh

Low Thigh

Popliteal

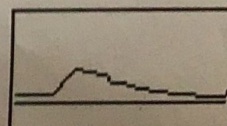
Weak



High Calf

Peroneal

Weak



Absent

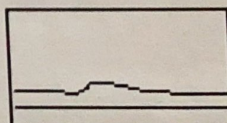
Anterior Tibial

Absent

Good

Posterior Tibial

Weak



Dorsalis Pedis

Toe Pressure

Post Exercise

## Notes

### LEFT LOWER LIMB ARTERIAL DUPLEX ASSESSMENT

Abdominal aorta was challenging to visualise due to depth of vessel, but appears patent with good triphasic waveforms and PSV 70cm/s. The abdominal aorta appears of normal calibre (maximum AP = 2.1cm), with no evidence of focal dilatation or aneurysm identified.

CIA and EIA - mild disease, monophasic waveforms throughout, PSV ranging from 53-86cm/s.

CFA - occlusive mixed echogenicity material identified within the vessel lumen (?thrombus).

PFA (origin) - origin is occluded. Flow reforms into a mildly diseased proximal PFA.



SFA - occluded from its origin to the distal thigh. A collateral vessel reforms flow into the SFA distal thigh (~56cm from medial malleolus, MM).

POPA - mild disease proximally, weak monophasic waveforms, PSV 24cm/s. Distal POPA appears severely diseased, velocities increase to 153cm/s. TPT appears patent but significantly diseased, PSV 192cm/s; origins of 3 vessel run-off noted.

ATA - significant stenosis identified in the proximal calf, velocities increase from 24cm/s to 94cm/s. Unable to identify flow in the remainder of ATA ?occluded.

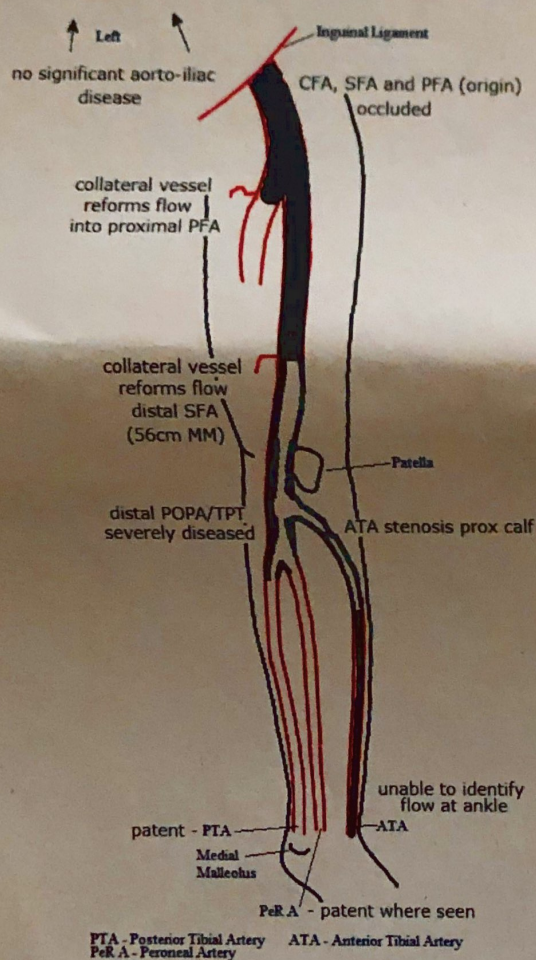
PTA - patent along length, weak monophasic waveforms, PSV 14cm/s at the ankle.

PeroA - patent where seen, weak monophasic waveforms, PSV 22cm/s at the ankle.

(Right CFA - mild disease, good triphasic waveforms. Unable to identify flow in the ATA at the ankle. Good triphasic waveforms in the PTA at the ankle).

Right resting ABPIs are within normal limits.

Unable to obtain accurate left resting ABPIs due to weakness of pedal signals.





Clinical History :  
BILATERAL CLAUDICATION  
PLEASE ARRANGE FOR ABPIS TOO

US Doppler lower limb arteries Rt:

CFA - moderate disease, monophasic waveforms, PSV 108cm/s.

PFA - origin is obscured, patent proximal, monophasic waveforms, PSV 48cm/s.

SFA - origin is significantly stenosed, velocities increase from 123cm/s to 695cm/s, falling to 82cm/s.

Diffuse moderate/significant disease in the mid SFA, PSV 21cm/s increasing to 229cm/s. Distal SFA is moderate/significantly diseased, monophasic waveforms, PSV 55cm/s.

POPA - moderate disease, weak monophasic waveforms, PSV 26-28cm/s. TPT is heavily calcified, at least 1 vessel run-off identified.

ATA and PTA - reduced monophasic waveforms at the ankle.

US Doppler lower limb arteries Lt:

CFA - significantly stenosed proximally, velocities increase from 178cm/s to 402cm/s.

PFA - mild disease, slightly turbulent biphasic waveforms, PSV 201cm/s.

SFA - proximal SFA is mild/moderately diseased, slightly turbulent biphasic waveforms, PSV 105cm/s.

Mid SFA is partially obscured due to shadowing caused by calcified vessel walls - where seen, velocities increase from 46cm/s to 123cm/s, indicative of at least a moderate/significant stenosis.

Distal SFA is heavily calcified, reduced monophasic waveforms, PSV 27cm/s.

POPA - moderate disease proximally, weak monophasic waveforms, PSV 20cm/s. A collateral vessel slightly improves flow into the mid-distal POPA, PSV 27cm/s. TPT is heavily calcified, unable to identify calf vessel origins.

ATA and PTA - reduced monophasic waveforms at the ankle.

Conclusion:

- Right: CFA waveforms are indicative of more proximal iliac disease. Multiple stenoses identified throughout the SFA.

- Left: Proximal CFA is significantly stenosed. At least a moderate/significant stenosis in the mid SFA.

Clinical History :  
bilateral calf claudication  
Life style affecting  
On best medical treatment

US Doppler lower limb arteries Rt :

CFA - moderate disease, good triphasic waveforms, PSV 239cm/s.

PFA (origin) - heavily calcified, good triphasic waveforms.

SFA - occluded from its origin to the mid thigh. Flow reforms in the mid SFA, reduced monophasic waveforms, PSV 38cm/s. Distal SFA appears mildly diseased, slightly reduced monophasic waveforms, PSV 75cm/s.

POPA - mild disease, slightly reduced monophasic waveforms, PSV 50-52cm/s. TPT appears patent; origins of 3 vessel run-off noted.

ATA and PTA - mild disease, good monophasic waveforms at the ankle.

PeroA - mild disease, slightly reduced monophasic waveforms at the ankle.

US Doppler lower limb arteries Lt :

CFA - mild disease, good triphasic waveforms, PSV 225cm/s.

PFA (origin) - mild to moderate disease, slightly turbulent triphasic waveforms.

SFA - occluded from its origin to the mid-distal thigh. Flow reforms in the mid-distal SFA, reduced monophasic waveforms, PSV 60cm/s. Distal SFA appears mildly diseased, slightly reduced monophasic waveforms, PSV 84cm/s.

POPA - mild to moderate disease, slightly reduced monophasic waveforms, PSV 110-59cm/s. TPT appears patent; origins of 3 vessel run-off noted.

ATA - mild disease, good monophasic waveforms at the ankle.

PTA - heavily diseased, weak monophasic waveforms at the ankle.

PeroA - mild disease, slightly reduced monophasic waveforms at the ankle.

**Conclusion: Bilateral SFA occlusion.**



## Clinical History :

Critical Rt lower leg crural disease + Popliteal stenosis Please asses Lft BKA Large eschar Rty heel

## US Doppler lower limb arteries Rt:

Limited assessment due to acoustic shadowing artefact caused by heavily calcified vessels throughout the right thigh and calf.

CFA - moderate disease, good biphasic waveforms.

PFA (proximal) - mild disease, good triphasic waveforms.

SFA - mild disease proximal, good biphasic waveforms, PSV 66cm/s. Remainder of SFA is heavily calcified and largely obscured, only intermittent areas of flow identified, velocities increase to 200cm/s in the mid thigh falling to 112cm/s in the distal thigh. Adductor canal appears significantly calcified and largely obscured. Cannot exclude significant disease in the SFA/adductor canal.

POPA - moderate disease, weak mono/triphasic waveforms, PSV 28-39cm/s. TPT appears heavily calcified and largely obscured, unable to visualise origins of calf vessel run-offs.

ATA - heavily calcified along length, intermittent areas of flow noted, monophasic waveforms at the

ankle.

PTA - unable to identify flow.

PeroA - not identified.

Conclusion: SFA/adductor canal are heavily calcified and largely obscured, cannot exclude significant disease. Crural vessels are heavily calcified, only intermittent areas of flow seen in the ATA. Unable to identify flow in the PTA.