**Arterial scan reports**

1. US Doppler aortoiliac

US Doppler lower limb arteries **Both**

Widespread heavy calcification.

Distal aorta was patent with biphasic flow. Suboptimal view of some sections of iliac arteries due to bowel gas, both CIA's and EIA's appeared patent with tri/biphasic flow signals.

Right:

The CFA, PFA origin, SFA and popliteal artery were patent with tri/biphasic flow signals, no significant stenosis noted.

The crural vessel is diffusely calcified and diseased. PT was the dominate run-off with triphasic signals. Biphasic signals also noted in the distal peroneal artery. Suboptimal view of ATA due to heavy calcification and acoustic shadowing, there might be a short occlusion in proximal section, monophasic signals noted at the ankle level.

Left:

The CFA, PFA origin, SFA and popliteal artery were patent with tri/biphasic flow signals, no significant stenosis noted.

The crural vessel is diffusely calcified and diseased.

PT was the dominate run-off with triphasic/sharp monophasic signals. AT appeared occluded. The peroneal artery was not visualised.

US Doppler aortoiliac: See above.

1. US Doppler upper limb arteries Rt

The subclavian artery, axially artery and brachial artery were patent with triphasic flow signals. The radial artery was occluded from the origin, no colour filling or Doppler signals noted in distal radial artery at wrist level. There was a short patent stump (about 1-2cm long) at ulnar origin (just below the bifurcation), it occluded below this point. No Doppler signals noted in distal ulnar artery.

1. US Doppler lower limb arteries Lt

Suboptimal view due to patient’s position and limited mobility. Widespread heavy calcification and atheroma.

The CFA and PFA origin were calcified but patent with triphasic flow. The SFA is diffusely and heavily calcified, the proximal 1/3 was patent with triphasic flow. There is a 4cm long section in mid-distal SFA with heavy calcification causing acoustic shadowing; it appeared patent with sharp monophasic flow signals. The distal SFA was occluded with large collaterals seen. There is a large fluid collection noted in the popliteal fossa, with no colour flow or Doppler signal noted (?Bake's cyst). The proximal-mid POPA was not visualised due to this collection and patient's limit mobility, unable to confirm the reform level. Damped monophasic signals and reduced flow velocities noted in distal popliteal.

Poor view of crural vessel due to patient's tolerance. ATA was diffusely calcified but appeared patent with poor monophasic signals noted distally. Poor monophasic signals also noted in distal peroneal artery above the ankle. PT appeared occluded.

1. US Doppler lower limb arteries Rt

Widespread heavy calcification.

The CFA, PFA origin, SFA and popliteal artery were diffusely calcified but patent with triphasic flow signals, no significant stenosis noted.

The ATA and PTA were heavily calcified and diseased but appeared patent with triphasic (hardened vessel)/sharp monophasic signals noted distally.

The peroneal artery was not visualised due to patient's habitus and heavy calcification.

1. US Doppler lower limb arteries Lt

The CFA was patent with monophasic signals. The PFA origin was patent with increased velocities (PSV 182cm/s, PSVR 2.4), suggestive 50-75% stenosis (closer to 50%). The proximal PFA was patent.

The SFA stent and popliteal artery are occluded as before. Short stump of SFA. Large collaterals noted behind the knee.

Technically difficult scan of distal vessels due to the open wound, no Doppler signals noted in the ATA or PTA at the ankle level. Poor view of peroneal artery, unable to confirm the patency.

1. US Doppler aortoiliac

US Doppler lower limb arteries **Both**

Widespread heavy calcification and atheroma.

Distal aorta was patent.

Right: The CIA was shadowed by bowel gas. EIA was calcified but patent with triphasic/sharp monophasic signals, there appeared a 50-75% narrowing in mid-distal EIA (PSV=282cm/s, PSVR=2.2). The CFA and PFA appeared patent with sharp monophasic signals.

The SFA was occluded from origin, flow restored in mid-thigh via collaterals. Mid-distal SFA was patent with damped monophasic signals. Popliteal was patent with damped monophasic signals.

The crural vessel was diffusely calcified. ATA appeared the dominate run-off with monophasic signals present. Proximal peroneal artery was patent with monophasic signals, unable to visualise the lower 2/3 section due to ulcer and patient's tolerance. PT was patent till mid-calf (above the ulcer) with monophasic signals, unable to see the flow distally.

Left: The CIA was mostly shadowed by bowel gas, it appeared patent, however, unable to rule out narrowing. The EIA stent was widely patent with triphasic/sharp monophasic signals.

The CFA and PFA appeared patent with sharp monophasic signals. The SFA was diffusely diseased and heavily calcified causing suboptimal view. There was a 50-75% narrowing in mid SFA (PSVR 271cm/s, PSVR 2.4). There is a 2-3cm long narrowing in distal SFA (PSV>300cm/s, PSVR not reliable), suggesting tight stenosis (around 75%). Signals damped a bit below this point. Popliteal artery was patent with monophasic signals.

The crural vessel was diffusely calcified. ATA appeared the dominate run-off with monophasic signals present. Unable to visualise peroneal artery due to ulcer and patient's tolerance. PT was patent till mid-calf (above the ulcer) with monophasic signals, unable to see the flow distally.

US Doppler aortoiliac: See above.

1. US Graft surveillance

Left Fem-PT bypass.

The CFA was patent with biphasic flow, slightly increased velocity (PSV 262.3cm/s). The Fem-distal bypass was patent with biphasic signals. Patent proximal anastomosis and main graft. The velocity was 111.2cm/s in the mid of the graft. Increased velocities noted in very distal graft/anastomosis (PSV=291cm/s, PSVR=3.65), suggestive 50-75% stenosis, no significantly change since last scan. Good biphasic/sharp monophasic flow seen in mid PTA distal to the anastomosis. Distal PTA was heavily calcified and diseased, with collaterals noted. It appeared patent at ankle level, with biphasic/sharp monophasic signals.

1. US Doppler aortoiliac

US Doppler lower limb arteries Rt

Suboptimal view of distal aorta and iliac arteries, due to patient's habitus and bowel gas. Only a small section of CIA was visualised, which appeared patent with biphasic flow. There was increased velocity noted in the proximal-mid EIA (PSV 250cm/s) suggestive a narrowing. The distal EIA was patent with monophasic signals. Alternative imaging is suggested.

The CFA was patent with monophasic flow signals, PSV 80cm/s. The PFA origin was patent with monophasic flow signals, reduced velocities (30-40cm/s). The SFA was patent with monophasic flow signals and reduced flow velocities (39-52cm/s). The proximal popliteal artery was patent with monophasic signals. It occluded below the knee with echolucent view noted in the lumen, suggesting emboli.

Very poor flow noted in the crural vessel. PT appeared restored in mid-calf with damped monophasic signals, however, unable to confirm. Very poor monophasic signals noted in distal PT (PSV 10-20cm/s). Proximal AT appeared patent with damped monophasic signals; it appeared occluded again in mid-section. Poor monophasic signals noted in ATA distally (10-15cm/s). Unable to follow the peroneal run-off due to poor flow, there were some poor monophasic signals noted distally.

1. US Doppler lower limb arteries Rt

Widespread heavy calcification.

The CFA and PFA origin were patent with biphasic flow. The SFA was diffusely calcified but patent with biphasic flow present.

The Popliteal artery was calcified and diseased. There was a 50-75% stenosis noted in mid popliteal artery (PSV 175cm/s, PSVR 3.5). Distal Popliteal and TP trunk were patent with biphasic flow.

There was three vessel run-off with biphasic flow noted in the ATA, PTA and peroneal artery, velocities 20-40cm/.

1. US Graft surveillance :

The CFA, PFA origin and proximal-mid SFA was patent with biphasic flow. There was mild narrowing (<50%) noted in mid SFA (PSV 180cm/s, PSVR 1.6). Distal SFA-pop bypass was widely patent with biphasic flow present. The popliteal aneurysm was occluded as before, measured 2.7cm at max diameter, no endoleak noted. Good biphasic flow noted in the ATA and PTA distally.

1. Doppler lower limb arteries **Both** :

On the Right:

The CFA and PFA origin were patent with triphasic flow signals. The proximal 1/2 SFA was patent with triphasic/sharp monophasic waveforms, but reduced flow velocities (40-50cm/s). The mid-distal SFA was occluded with large collaterals noted, the occlusion extended to mid popliteal artery. Flow appeared restored in distal popliteal with damped monophasic flow signals.

PTA was calcified but patent with damped monophasic flow signals noted at the ankle.

The ATA was diffusely calcified and diseased, it appeared patent but with poor monophasic flow.

On the Left:

The CFA and PFA origin were patent with triphasic flow signals. The proximal 2/3 SFA was patent with triphasic/sharp monophasic waveforms. Poor view of distal SFA and popliteal artery, due to patient's habitus and acoustic shadowing. There were some sharp monophasic signals noted in proximal POPA, suggestive patency, however unable to confirm, alternative imaging is suggested.

ATA appeared patent with sharp monophasic signals noted at the ankle, but reduced flow velocities (10-20cm/s).

The proximal PTA was patent with monophasic flow. There appeared a short occlusion (about 4-5cm long) in mid PT. Flow appeared restored in mid-calf, reasonable monophasic signals noted at the ankle.

1. US Doppler lower limb arteries Rt :

Widespread heavy calcification.

The CFA was calcified but patent with triphasic flow. The PFA origin was patent with triphasic flow. The proximal SFA was patent with triphasic signal, reduced flow velocities (50-60cm/s). Flow velocity reduced to 20-30cm/s in mid SFA and waveforms change to sharp monophasic. There is a 1.5-2cm long occlusion in mid SFA. Restored flow was poor and reduced (10-30cm/s), damped monophasic signals. Then the distal SFA to proximal Popliteal artery appeared occluded again. The flow appeared restored in mid POPA. There were some poor monophasic signals noted in mid and distal popliteal and TPT. However, the flow was too poor (8-15cm/s) and barely pulsatile, so unable to rule out other occlusion.

Poor view of crural vessel due to heavy calcification and poor flow signals. The peroneal artery was not visualised. PT appeared occluded distally. There are collaterals with barely pulsatile signals noted at ankle around ATA, ATA was likely occluded.

1. US Doppler lower limb arteries Lt :

Normal calibre of abdominal aorta, max AP diameter 1.9cm.

The CFA and PFA origin were patent with triphasic flow signals. The proximal SFA was patent with normal triphasic flow signals. There is a ~75% stenosis (PSV 317cm/s, PSVR~4) noted in the mid SFA. Distal SFA was patent with triphasic flow present. The popliteal artery and TPT were patent with tri/biphasic flow signals.

Three vessel run-off with biphasic flow signals noted in the ATA, PTA and peroneal artery.

1. US Doppler artery map lower limb Rt :

The CFA and PFA were patent with triphasic flow. The SFA was patent with triphasic flow present, no significant stenosis noted. Flow reduced to 20-35cm/s in proximal popliteal, but still tri/biphasic signals. There is an occlusion in below knee popliteal artery; the occlusion is about 6-7cm long. Flow restored in very distal popliteal artery/TPT (the trifucation was not clearly visualised) with damped monophasic waveforms.

There appeared two vessel run-off with monophasic signals in the ATA and peroneal artery distally.

1. US Doppler lower limb arteries Lt :

Wide spread heavy calcification.

The CFA was patent with triphasic flow. The PFA origin was patent with triphasic flow. The SFA was heavily calcified and diffusely diseased. There is a ~50% stenosis noted at the SFA origin (PSV of 152.6cm/s, PSVR of 2.4). Triphasic/sharp monophasic flow signals noted in the proximal SFA. There is a tight focal stenosis (PSV >400cm/s, PSVR>8, suggestive >90%) in mid SFA. Mid and distal SFA was patent with monophasic signals (slightly damped). The popliteal artery was patent with monophasic flow signals. Patent TPT with monophasic flow.

The crural vessels were diffusely diseased. There appeared three vessel run-off with monophasic signals noted in the ATA, PTA and peroneal artery. However, the flow signals in ATA were very poor.

1. US Doppler lower limb arteries Lt :

Widespread heavy calcification.

The CFA was patent with triphasic flow. The proximal PFA was patent with triphasic flow signals. The proximal SFA stent was widely patent, with triphasic flow signals. There was a mild narrowing (<50%) noted mid SFA, triphasic flow signals. There was a ~50% stenosis in distal SFA (PSV of 250cm/s, PSV ratio of 2.1), triphasic waveforms.

Suboptimal view of popliteal artery and below knee vessels as the patient was confused. The popliteal artery appeared patent with triphasic flow signals.

ATA and PTA were diffusely calcified and diseased. The proximal ATA was patent with triphasic flow. There was a 50-75% stenosis noted in proximal section (PSV 92cm/s, PSV ratio of 3.68). There appeared an occlusion in mid ATA. Flow appeared restored in distal calf with damped monophasic flow signals. Unable to follow it below ankle.

Poor view of proximal PT, there appeared an occlusion in mid-section with collaterals seen. Flow appeared restored in distal calf with monophasic signal. The peroneal artery was not visualised due to the heavy calcification and oedema.

1. US Doppler lower limb arteries Lt :

Widespread heavy calcification.

The CFA was patent with triphasic flow; the PFA origin was patent with triphasic/sharp monophasic flow signals.

The SFA stent was occluded now. Distal SFA was occluded. Below knee arteries were not assessed properly as per the instruction.

No evidence of restored flow in distal popliteal artery.

Poor damped monophasic signals noted in distal ATA. Poor damped monophasic signals also noted in distal PTA (just above the ankle); it appeared occluded below the ankle with collaterals noted.

1. US Doppler lower limb arteries Rt :

Previous aorta/ileo-fem bypass was partially shadowed by the bowel gas. The visualised section was patent with triphasic flow.

The CFA is aneurysmal, max diameter 2cm; it is patent with triphasic flow signals. The proximal PFA was patent with triphasic flow. The proximal SFA was patent with triphasic flow signals. There is a 7-8cm long occlusion noted in mid-distal SFA. Flow restored just above the knee, with damped monophasic flow signals. The popliteal artery and TPT were patent with monophasic waveforms.

PTA and peroneal artery were patent with monophasic signals seen distally. The proximal ATA was patent with monophasic signals. There appeared an occlusion in mid-distal ATA. Distal ATA appeared patent with monophasic signals; it appeared occluded again at ankle level.

US Doppler aortoiliac: See above.

1. US Doppler lower limb arteries Lt :

Widespread heavy calcification.

The CFA was patent with triphasic flow. The proximal PFA were patent with biphasic flow.

The SFA was calcified but patent with triphasic flow signals throughout, with no significant stenosis noted. Patent popliteal artery with triphasic flow.

There are two vessel run-off with ATA and peroneal artery. The PTA was patent at the origin, but occluded below proximal-calf with collaterals noted.

1. US Doppler lower limb arteries Lt :

Widespread heavy calcification.

The CFA was patent with triphasic flow. The PFA origin was patent with biphasic flow. Suboptimal view of mid-distal SFA due to patient's habitus, the curvilinear probe was required to obtain the images. The SFA appeared patent with biphasic/sharp monophasic flow signals. The popliteal was patent with sharp monophasic flow.

Suboptimal view of crural vessel due to patient's habitus and heavy oedema. ATA appeared the single run-off with monophasic flow signals. There is a 50-75% stenosis noted in distal ATA (PSV 155cm/s, PSVR 2.8).

1. US Doppler lower limb arteries Lt

Widespread heavy calcification.

The CFA was patent with triphasic flow. The PFA origin was patent with biphasic flow. The SFA was patent with tri/biphasic flow signals.

The proximal popliteal artery was patent with triphasic flow. There is a 50-75% stenosis in mid-distal popliteal artery (PSV 160cm/s, PSVR 3.5). There is another 50-75% (PSV 121cm/s, PSVR 2.6 closer to 50%) stenosis noted in the TPT, triphasic signals.

Three vessel run-off with monophasic signals present in the ATA, PTA and peroneal artery. There is a >75% stenosis noted in distal ATA (above the ankle, PSV 166cm/s, PSVR 4.2)

1. US Doppler lower limb arteries Rt:

Widespread calcification.

The CFA and PFA were patent with tri/biphasic flow signals. The proximal SFA was patent with triphasic flow. There is a ~50% stenosis noted in mid SFA (PSV 255cm/s, PSVR 2.2). There is another 50-75% stenosis noted in distal SFA (PSV 339cm/s, PSVR 2.9). The popliteal artery was patent with biphasic flow signals. There is a ~50% stenosis noted in TPT (PSV 229cm/s, PSVR 1.7), with sharp monophasic flow signals.

Three vessel run-off with sharp monophasic signals noted in the ATA, PTA and peroneal artery.

1. US Doppler lower limb arteries **Both :**

Widespread heavy calcification and disease, bilaterally.

On the Right:

Distal EIA were patent with triphasic/sharp monophasic flow signals. The CFA and PFA origin were heavily calcified but patent with triphasic/sharp monophasic flow signals. The proximal 3-4cm SFA was patent with high resistance flow and reduced velocities (30-40cm/s). The SFA was heavily calcified and diffusely diseased, causing heavy acoustic shadowing. There was a long occlusion below this proximal short patency, with numerous collaterals seen around. Flow restored in distal SFA with damped monophasic flow. The popliteal appeared patent with damped monophasic flow signals.

The crural vessels were diffusely diseased. ATA origin was patent, there appeared a tight narrowing (PSVR of 5, however, the ratio might be inaccurate as velocities were not reliable) noted below the origin. ATA occluded below proximal-calf.

The peroneal artery was patent with monophasic flow. The PTA was patent but diseased. There was a ~50% stenosis noted in the proximal PTA and a 50-75% stenosis (PSV of 117cm, PSVR of 2.4) noted in the mid PTA. Distal PT was patent with monophasic flow.

On the Left:

Distal EIA were patent with triphasic/sharp monophasic flow signals. The CFA and PFA origin were heavily calcified but patent with triphasic/sharp monophasic flow signals.

The SFA occluded from the origin. The occlusion was extended to distal SFA. Flow restored with damped monophasic signals in distal thigh (just above the knee); it remains patent for a few centimetres. Suboptimal view of proximal popliteal, there appeared another short occlusion of proximal POPA. Flow fully restored in mid popliteal artery with damped monophasic signals. TPT was patent.

The crural vessels were diffusely diseased. ATA and peroneal artery were patent with monophasic signals.

The PTA was heavily diseased, there appeared multifocal short occlusions, the flow does not reach the ankle.

1. US Doppler lower limb arteries Lt :

Widely patent left common iliac. There is tight stenosis noted in the left EIA origin stenosis (PSV>400cm/s). Sharp monophasic flow seen in distal left EIA.

The CFA was patent with sharp monophasic signals. The proximal PFA was patent with sharp monophasic flow.

The SFA was heavily calcified and diseased. The proximal 1/2 SFA was patent with monophasic signals and reduced flow velocities (20-30cm/s). There is a 4-5cm long occlusion in mid SFA, with collaterals noted. Flow restored in mid-distal SFA with damped monophasic signals. The popliteal was patent with damped monophasic signals and reduced flow velocities.

The PTA and ATA were patent with monophasic signals noted distally.

Poor view of peroneal artery, might be occluded.

1. US Doppler lower limb arteries Lt :

Widespread heavy calcification and atheroma.

The CFA and PFA origin were patent with triphasic/sharp monophasic flow. The SFA was occluded from the origin, flow restored in distal thigh via collaterals, with damped monophasic signals and poor flow velocities (10-20cm/s). Distal SFA and popliteal artery were patent with poor monophasic flow. TPT was patent.

ATA and PTA were patent with poor monophasic flow (velocity 8-15cm/s). The peroneal artery was not visualised clearly due to heavy calcification and poor Doppler signals.