

# Ultrasound in the Diagnosis of Giant Cell Arteritis in a Fast-Track Clinic

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## About

- Giant Cell Arteritis (GCA)- commonly known as **Temporal Arteritis** (**misnomer** as more arteries are involved)
- Most common form of vasculitis (categorised as large vessel vasculitis)
- Autoimmune**
- Age **>50 years** (male << female 2-3x, **peak age 75**)
- Fairly **rare** (incidence 10 of 10,000 in >age 50)

## Types

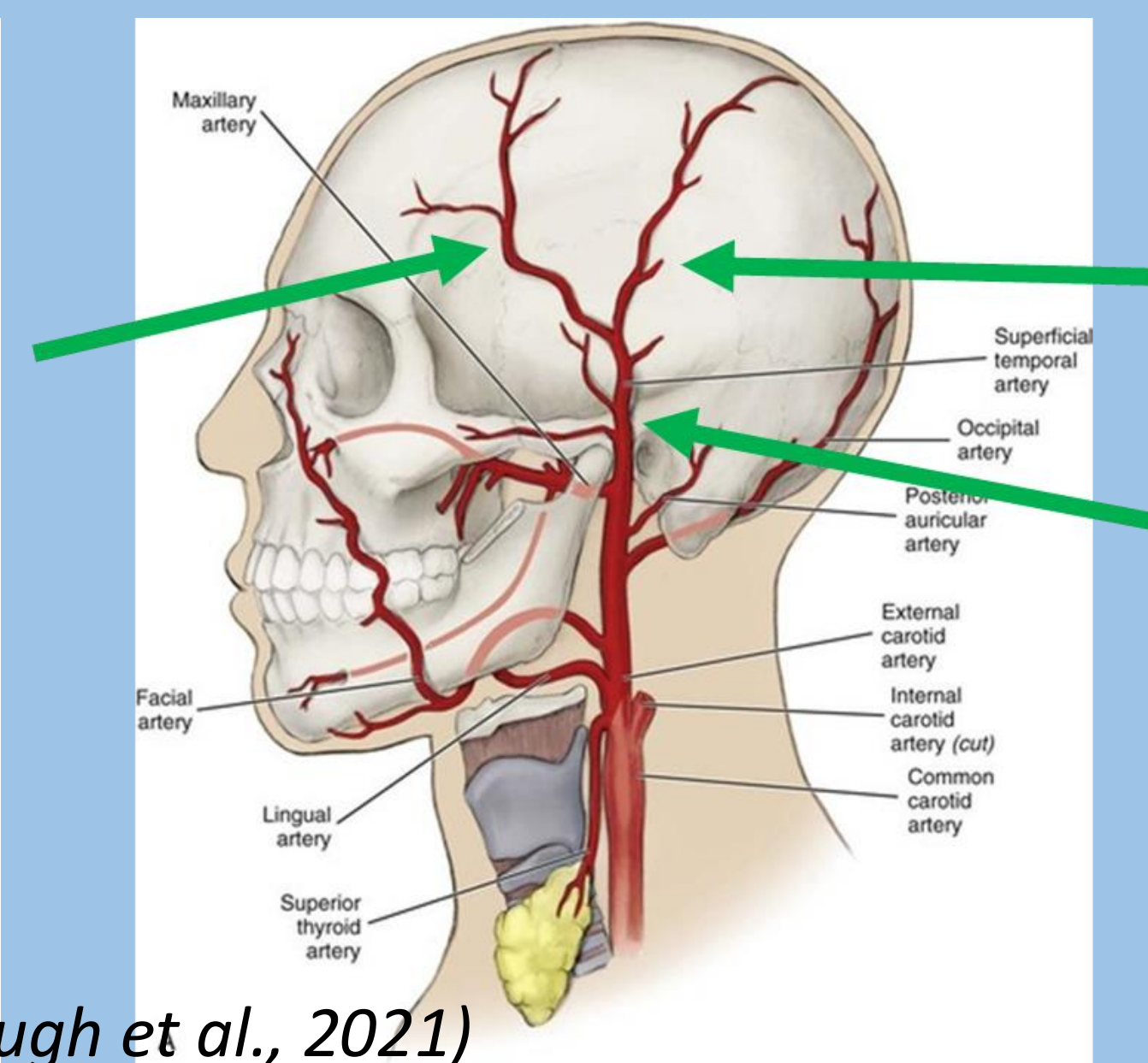
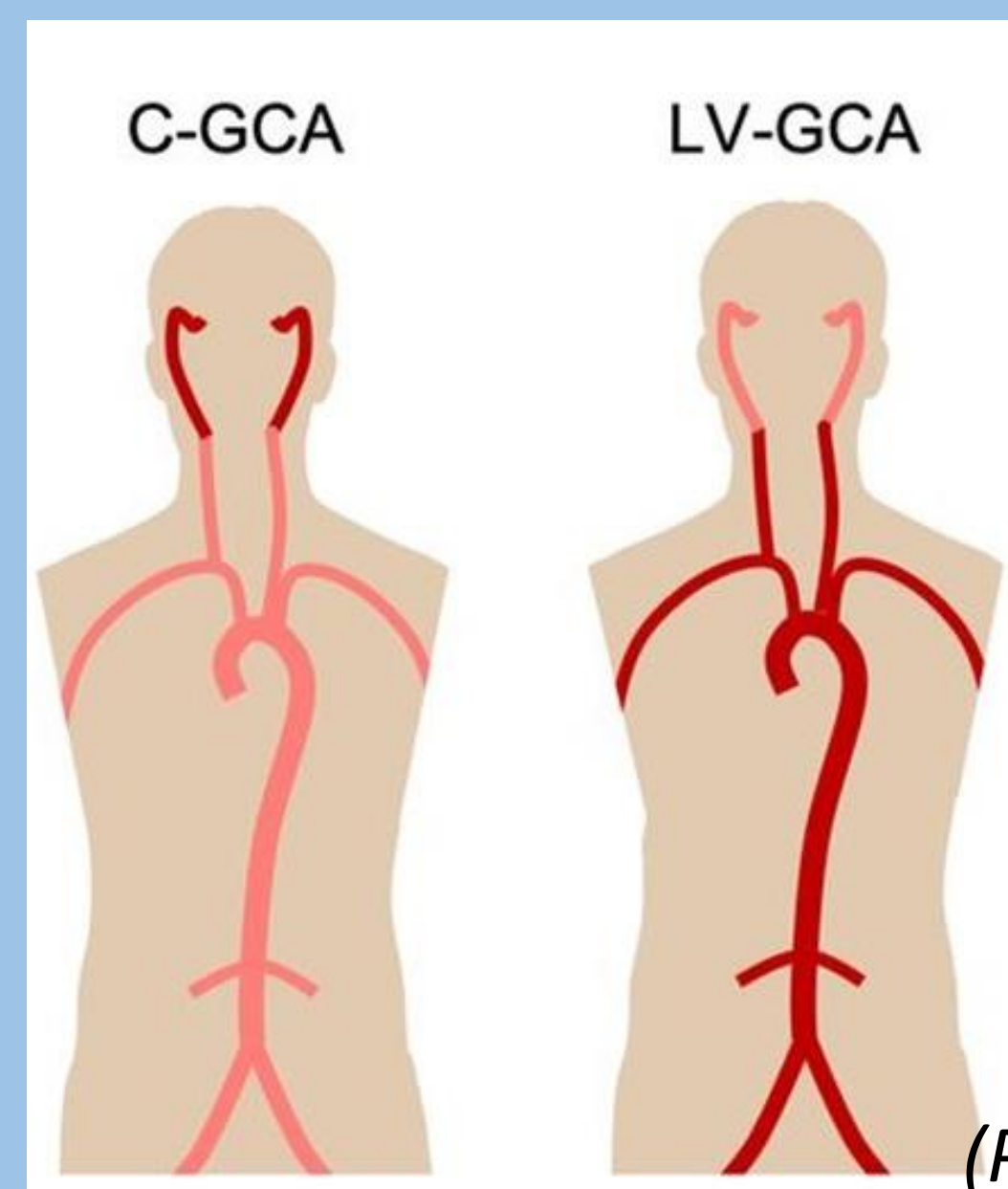
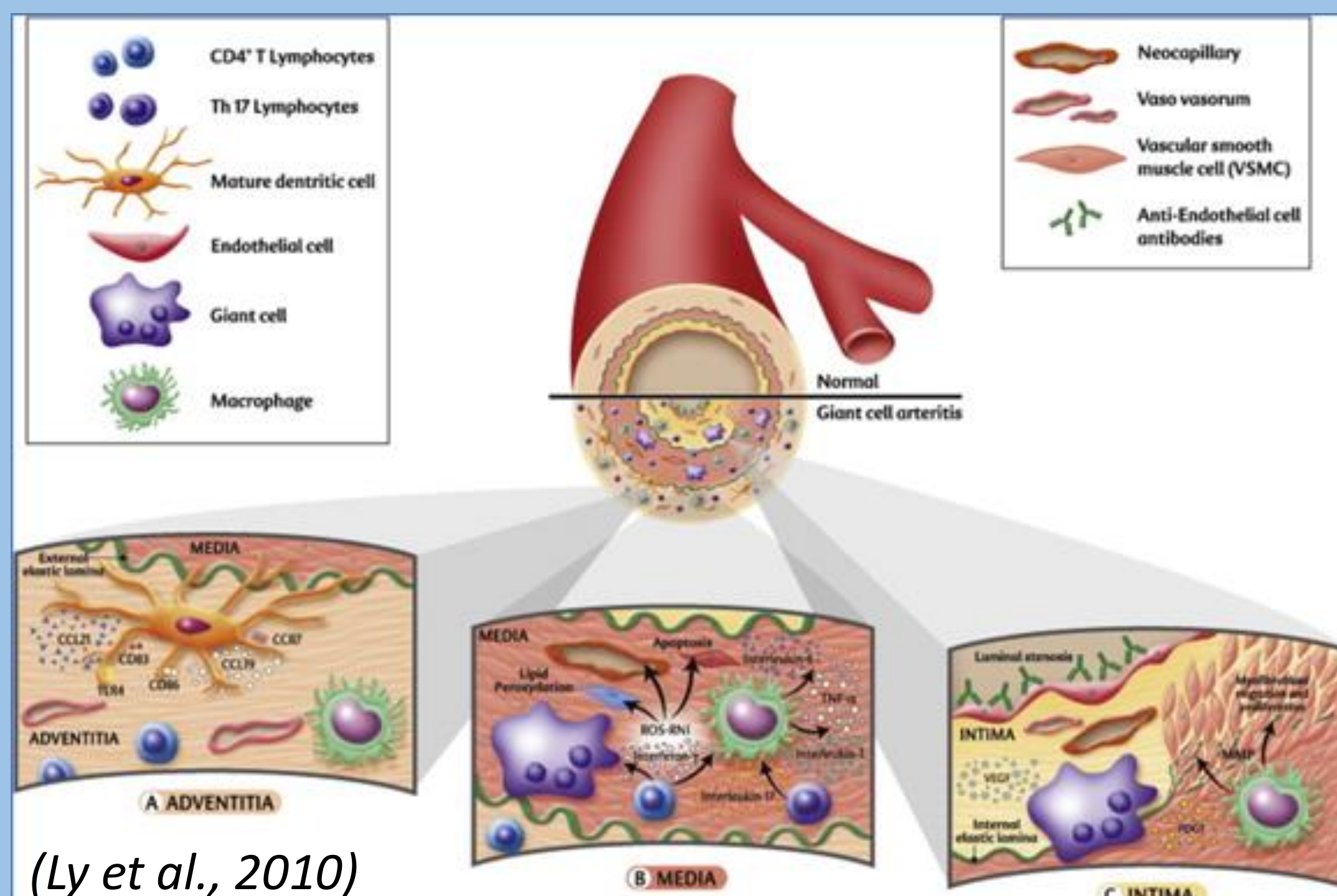
- Large Vessel-GCA** (LV-GCA, affects branches of aorta)
- Cranial-GCA** (C-GCA, affects extracranial branches of External Carotid Artery)
- Combination** of both

## Pathophysiology

- Aetiology/trigger **unclear** (?infectious, ?environmental response)
- Immune response>> leads to thickening of the arterial wall due to **granulomatous-type inflammation** (+ presence of **giant cells**)

## Symptoms

- Symptoms **variable**- depends on arteries impacted
- Can include: new onset headache, jaw claudication, scalp/temporal artery tenderness, fevers and fatigue, palpable arteries
- Considered **rheumatological emergency**- if not treated, it can lead to ischemic conditions such as **blindness** or **stroke**
- Link with Polymyalgia Rheumatica (**PMR**)



## Treatment

- High-dose steroids** (long term, tapering ~ 1 year)
- Significant side-effects of steroids
- Goal of treatment is **remission**
- Relapse** is VERY common
- Very little choice in therapeutic agents

## Fast Track GCA Clinics in the UK

- One-stop clinic** in conjunction with Rheumatology (ideally within 2 weeks of symptom onset)
- Increasing trends in the UK
- Benefits of Rapid diagnosis**= reduction of unnecessary steroids reducing side-effects, reduce complications of GCA (reduce blindness/stroke)

## RBH Fast Track GCA Clinic

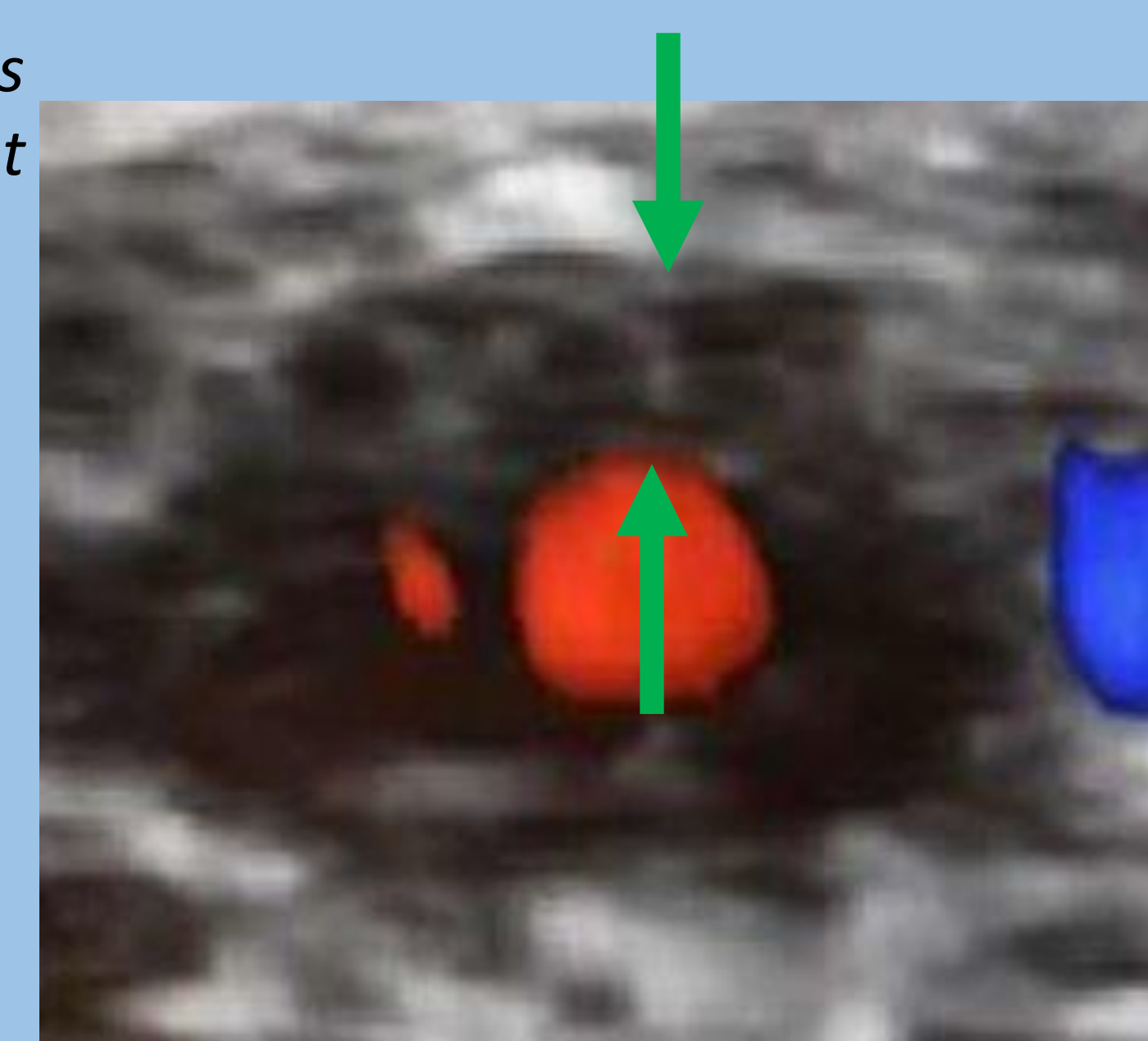
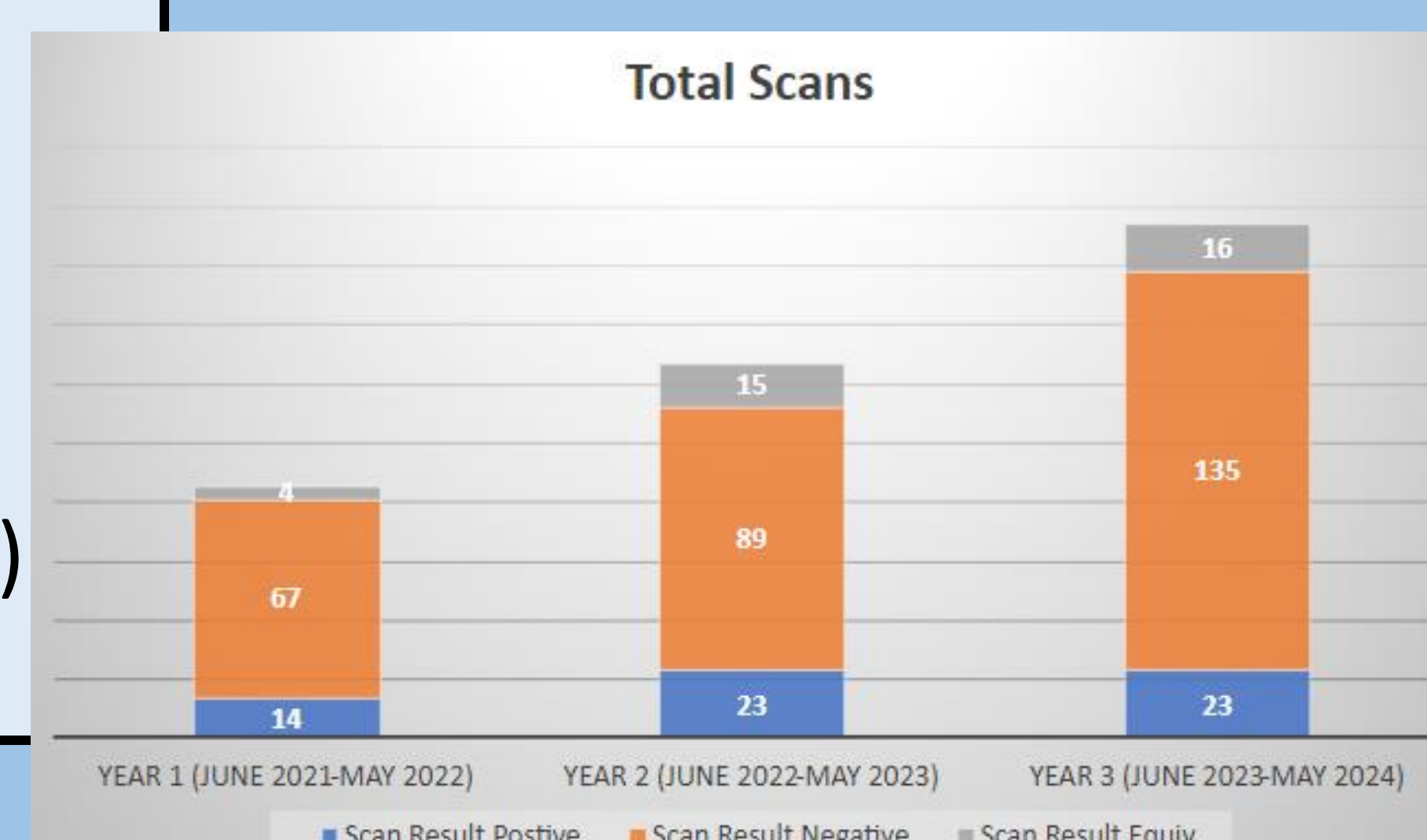
- As guided by GIRFT initiative
- Previous LONG (>6 weeks) delays for TAB
- Initiation May 2021; weekly clinic (find a balance)
- Scans vetted by Rheumatology (cut down inappropriate referrals)
- Review period: May 2021-April 2024 (3 years)
- Results- **396 scans**- only 4 went on for TAB (392 TAB saved= **~£400k-£800k savings** dependent on tariff)
- High patient satisfaction**, non-invasive procedure
- Unusual cases noted (such as: involvement of Occipital Artery or Vertebral Artery, unsuspected LV-GCA); challenges noted in borderline scans (low rate however)
- Winner- RBH Star Award: *Innovation of the Year* (2024)



Axillary Artery  
IMT thickening

Artery	Max Thickness (IMT)
Axillary	1.0 mm
Common STA	0.4 mm
Frontal/Parietal Branches	0.3 mm

HALO, A-P IMT thickness measurement



## Conclusions:

- GCA is rare and misunderstood and is difficult to diagnose/treat; it is considered emergent
- Ultrasound is a key player for rapid diagnosis in FTCs (negative scans are just as useful as positive scan- can rule-out GCA)
- A fast-track clinic saves money for healthcare systems and improves patient satisfaction

## References

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