GCA ULTRASOUND SCORING SYSTEMS

Halo Score

OGUS

A halo is a homogeneous, hypoechoic wall thickening of the artery, reflecting inflammation-induced edema of the arterial wall

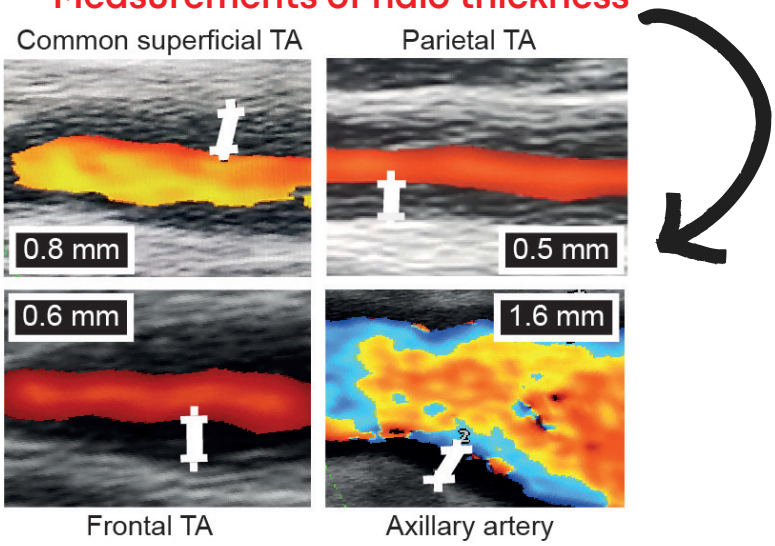
Created by Medha Soowamber

(1) Halo Score

Suggested use: for diagnostic purposes and disease stratification in clinical practice and research

Vessels examined: Common superficial temporal artery, its parietal and frontal branches & the axillary arteries = 8 vessels (halo count: 0-8)

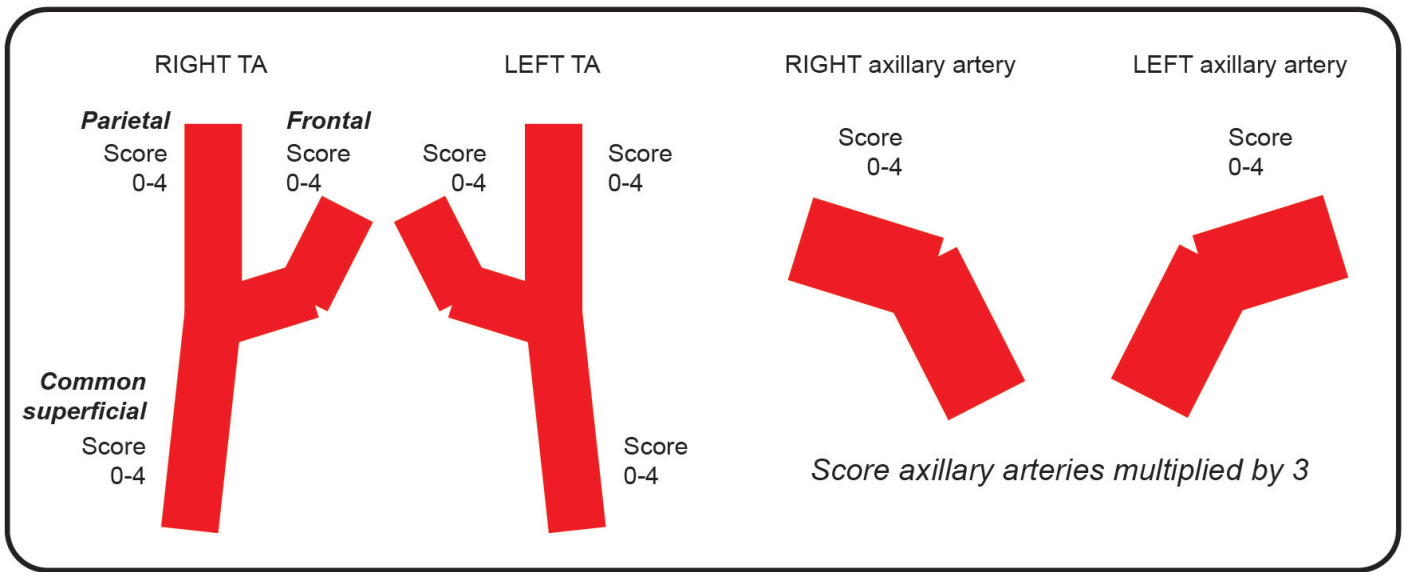
Measurements of halo thickness



Halo thickness cut-off value & Halo grading (0-4)

Halo Grading	Common superficial TA halo thickness (mm)	Parietal TA halo thickness (mm)	Frontal TA halo thickness (mm)	Axillary artery halo thickness (mm)
Grade 0	0.3 or less	0.2 or less	0.1 or less	0.5 or less
Grade 1	0.4	0.3	0.2	0.6
Grade 2	0.5	0.4	0.3	0.7-0.8
Grade 3	0.6-0.7	0.5*	0.4	0.9-1.5
Grade 4	0.8 or more	0.6 or more	0.5 or more	1.6 or more

Halo Score values (sum of halo grading) range from 0 to 48



Cut-off points providing a specificity of 95% for a clinical diagnosis of GCA:

Halo Score of ≥10 or a halo count of ≥6

Halo Score ≥4: Sensitivity 73%, Specificity 78%

Halo count ≥2 or Halo Score ≥3, identifies GCA patients at high risk for ocular ischemia (>30%)

Halo Score showes a positive correlation with platelets counts, CRP and correlated negatively with hemoglobin level

van der Geest KsM, Borg F, Kayani a, et al. Ann Rheum Dis 2020;79:393–399.

2. OMERACT GCA Ultrasonography Score (OGUS)

Suggested use: as a monitoring tool and outcome measure in clinical trials

Score includes 8 segments: Bilateral common superficial temporal artery, its parietal and frontal branches & the axillary arteries

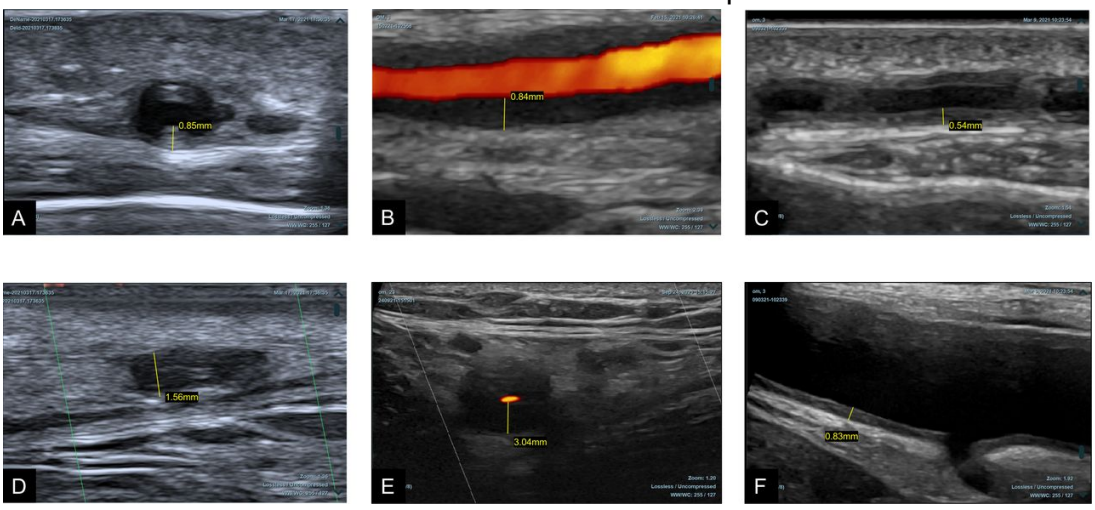
OGUS is calculated as:
[Sum of intima–media thickness (IMT) measured in every segment divided by the rounded cut-off values of IMTs in each segment (ie, common trunk of superficial temporal arteries: 0.4 mm; parietal and frontal branches: 0.3 mm; axillary arteries: 1.0 mm)]/divided by the number of segments available

Sum of
(CR/0.4 mm+CL/0.4 mm+PR/0.3 mm+PL/0.3 mm+FR/0.3 mm+FL/0.3 mm+AR/1.0 mm+AL/1.0 mm)
÷
number of segments available
(max:8; exclude biopsy segment)

AL, axillary artery left; AR, axillary artery right; CL, common trunk of superficial temporal artery left; CR, common trunk of superficial temporal artery right; FL, frontal branch left; FR, frontal branch right; PL, parietal branch left; PR, parietal branch right.

0-1: Normal >1: abnormal

Measurement specifications:
IMT: measured in the area of greatest thickness + preferably in longitudinal planes
Should include at least 1 decimal place



OGUS correlates moderately with ESR, CRP and BVAS

Online calculator for the OGUS
http://scoring.multimedium.at/OMERACT

Dejaco C, Ponte C, Monti S, et al. Ann Rheum Dis. 2022 Dec 12