

OMERACT US SUB-TASK FORCE

Ultrasound (US) in Large-Vessel Vasculitis (LVV)

DELPHI EXERCISE ROUND 2

Dear Colleagues,

Welcome back to the DELPHI Survey of the Large-Vessel Vasculitis Sub Task Force. Thank you very much for your perfect collaboration in this endeavor. We achieved **consensus in 9/9** Delphi definitions [(normal temporal arteries, normal extra-cranial large arteries, arteriosclerosis, “halo sign”, stenosis of temporal arteries, stenosis of extra-cranial large arteries, occlusion, compression sign (temporal arteries), US assessment of compression sign (temporal arteries)] with a **response rate of 96%** (24 out of 25 invited experts).

Vessel wall pulsation as well as the measurements of the intima-media thickness did not reach the threshold for consensus in the first Delphi round, thus, these items were excluded from further assessments.

The **objective of this second round** is to obtain consensus on **3 definitions** in which agreement was already achieved, however, we reworded the definitions incorporating your comments to the first round for further improvement of quality. Please mark your response!

Section A: Definition of normal and arteriosclerotic US vascular appearance

Section B: Definition of pathology

Section C: Consensus on how to perform ultrasound in suspected LVV

Best regards,

Wolfgang Schmidt, Christina Duftner and Christian Dejaco

Definitions with already achieved agreement in the first Delphi round were revised in some cases according to your comments in order to improve the quality of the definitions (changes are highlighted in yellow). We ask you on your opinion whether you prefer the original or the revised versions of the definitions.

Section A: Consensus on definitions of normal and arteriosclerotic ultrasound appearance of arteries

3. Definition of US appearance of arteriosclerotic arteries:

Original definition:

Non-homogenous and in part hyperechoic, irregularly delineated, eccentric vessel wall alteration.

Delphi result: Agreement 95.8%

Revised version of original definition according to your comments (see attachment page 2):

Heterogenous and in part hyperechoic, irregularly delineated, eccentric vessel wall alteration.

Which statement do you prefer? (please mark)

original statement

revised statement

Additional comments or suggestions (optional):

.....
.....

How do you agree with the revised definition? (please underline)

(strongly disagree) 1 2 3 4 5 (strongly agree)

Additional comments or suggestions (optional):

.....
.....

Section B: Consensus on definitions of pathologic ultrasound findings in arteries

Definition of US elementary lesions of vasculitis

1. Definition of US appearance of vasculitis – “HALO SIGN”:

Original definition:

Circumferential, homogenous, hypoechoic wall thickening, well delineated towards the luminal side, visible both in longitudinal and transverse planes.

Delphi result: Agreement 75%

Revised version of original definition according to your comments (see attachment page 3):

Homogenous, hypoechoic wall thickening, well delineated towards the luminal side, visible both, in longitudinal and transverse planes, **most commonly concentric in transverse scans.**

Which statement do you prefer? (please mark)

original statement

revised statement

Additional comments or suggestions (optional):

.....
.....

How do you agree with the revised definition? (please underline)

(strongly disagree) 1 2 3 4 5 (strongly agree)

Additional comments or suggestions (optional):

.....
.....

2.1. Definition of US appearance of vasculitis – STENOSIS of temporal arteries:

Original definition:

A stenosis is characterized by aliasing and persistent diastolic flow by colour Doppler US. The maximum systolic flow velocity determined within the stenosis by pulsed wave (pw)-Doppler ultrasound is >2 times higher than the flow velocity before or behind the stenosis.

Delphi result: Agreement 87%

Revised version of original definition according to your comments (see attachment page 3):

A stenosis is characterized by aliasing and persistent diastolic flow by colour Doppler US. The maximum systolic flow velocity determined within the stenosis by pulsed wave (pw)-Doppler ultrasound is ≥ 2 times higher than the flow velocity before or behind the stenosis.

Which statement do you prefer? (please mark)

original statement

revised statement

Additional comments or suggestions (optional):

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.....

How do you agree with the revised definition? (please underline)

(strongly disagree) 1 2 3 4 5 (strongly agree)

Additional comments or suggestions (optional):

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.....

Thank you very much!