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THU0334

LASER SPECKLE CONTRAST ANALYSIS FOR MEASUREMENT OF PERIPHERAL BLOOD PERFUSION IN SYSTEMIC SCLEROSIS PATIENTS: CAN IT PREDICT FUTURE ISCHEMIC DIGITAL TROPHIC LESIONS?

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Background: Vasculopathy is a hallmark of systemic sclerosis (SSc). Laser speckle contrast analysis (LASCA) is a research tool to assess peripheral blood perfusion (PBP) (1). At this moment, its reliability has been attested in SSc patients, but its predictive value for future ischemic digital trophic lesions (DTL) is unknown (1).

Objectives: To investigate in an unselected, prospective SSc cohort if baseline LASCA PBP measurements can discriminate between patients who will develop ischemic DTL (iDTL) and those who will not.

Methods: Patients (fulfilling 2013 ACR/EULAR criteria and/or 2001 LeRoy and Medsger criteria) were recruited during the period of December 2017 to September 2018. LASCA was performed at baseline, in standardized conditions (1). Regions of interest (ROIs) (diameter 1 cm) were outlined at the 2nd-5th fingertip both volar and dorsal. The 'average PBP' of these ROIs was calculated (expressed in arbitrary perfusion units [PU]). A monthly telephone survey was conducted for 1 year to investigate DTL occurrence. DTL were considered 'ischemic' if not related to calcinosis. Logistic regression and ROC analysis were used to assess if average PBP is predictive of future iDTL.

Results: Of the 106 patients with complete follow-up (92 women [86,8%]; 18 limited SSc [17,0%], 82 limited cutaneous SSc [77,4%], 6 diffuse cutaneous SSc [5,7%]), 29 patients (27,4%) had a DTL history. Forty-nine patients (46,2%) were on vasodilator therapy. Only 7 patients developed at least 1 iDTL during follow-up (6,6%) (Figure 1a). Performing univariate logistic regression (ULR), average PBP was not predictive for future iDTL (Table 1). Of note, analyzing only the patients not taking vasodilators, average PBP in the 'iDTL group' (n = 3) was median 46,8 PU (min. 45,6 - max. 68,8) vs. median 141,4 PU (min. 24,4 - max. 269,5) in the 'no iDTL group' (n = 54) (Figure 1b). In this subgroup, all 3 patients who developed iDTL (100%) had an average PBP ≤ 70 PU whereas only 9 of the 54 patients without iDTL development (16,7%) had such PBP values.

Table 1. Results of ULR

Variable	Summary statistics		ULR			
	iDTL cases (n = 7)	Non-iDTL cases (n = 99)	Parameter	OR (95% CI)	p	ROC AUC (95% CI)
Average PBP (PU) mean (+/- SD)	123,0 (74,6)	142,9 (61,9)	Average PBP (linear)	0,995 (0,982-1,007)	0,418	0,597 (0,352-0,843)

Conclusion: In this pilot study with an unselected day-to-day SSc population, where patients were allowed to continue vasodilators, there was an unexpected low iDTL incidence, undermining the power of our study. Even though, the observations in the subgroup of patients not taking vasodilators deserve future investigation to assess whether low PBP values, as measured by LASCA, are associated with a higher iDTL incidence.

References:

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Figure 1. Distribution of 'average PBP' as measured by LASCA for 'no iDTL group' and 'iDTL group'

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THU0335

IS CARDIOVASCULAR RISK IN INFLAMMATORY MYOPATHIES UNDERESTIMATED?

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Background: Inflammatory myopathies (IIM) comprise a heterogeneous group of rare connective tissue diseases (CTD) which can occur in any age group and in association with other autoimmune CTD. Extramuscular manifestations, including cardiac involvement, are common and may occur in the absence of muscle symptoms.

The link between inflammation and atherosclerosis has been well established in other immune-mediated diseases suggesting that atherosclerosis in these conditions is driven by disease activity rather than traditional cardiovascular (CV) risk factors. Large observational studies have identified atherosclerotic cardiovascular events (CVE) as one of the leading causes in IIM but to date there are no specific recommendations for patients with IIM beyond the general guidelines for management of CV risk in the general population.

A systematic review of the literature available was carried out, identifying six observational studies based on data collected from local or national healthcare databases. All six studies showed an increased incidence of MI and/or stroke compared to the general population, with a suggestion in some of them that this incidence was particularly high in the first few years after disease onset.

Objectives: To establish if the incidence of atherosclerotic CVE in an IIM cohort is higher than expected when compared to QRISK2 predicted risk, and if so to determine if this risk is influenced by disease duration, gender, disease phenotype or ethnicity.

Methods: Patients referred to the Myositis clinic at King's College Hospital (KCH) were identified, excluding patients with Inclusion Body Myositis, overlap diagnoses with other CTD or prior atherosclerotic CVE. Only patients fulfilling ACR/EULAR criteria for IIM and under follow up at KCH (Denmark Hill site) were included in the study. Retrospective data was gathered by reviewing electronic patient records.

Results: 327 patients were identified through the Myositis Departmental database. After applying exclusion criteria the final dataset consisted of 159 patients (114 female, 71.7%), including dermatomyositis (82 patients), polymyositis (49 patients), Clinically Amyopathic Dermatomyositis (7 patients), anti-synthetase syndrome (12 patients) and necrotizing myopathy (9 patients). 81 patients were white (50.9%). Mean age of entry in the study was 49.1 years (SD 15.2) for women and 49.7 years (SD 12.2) for men. The mean follow up time was 2.61 years with a median time of 2.78 years (IQR 1.64-2.85). The mean disease duration was 6.77 years for the whole cohort with a median time of 4.61 years (IQR 2.43-9.07).