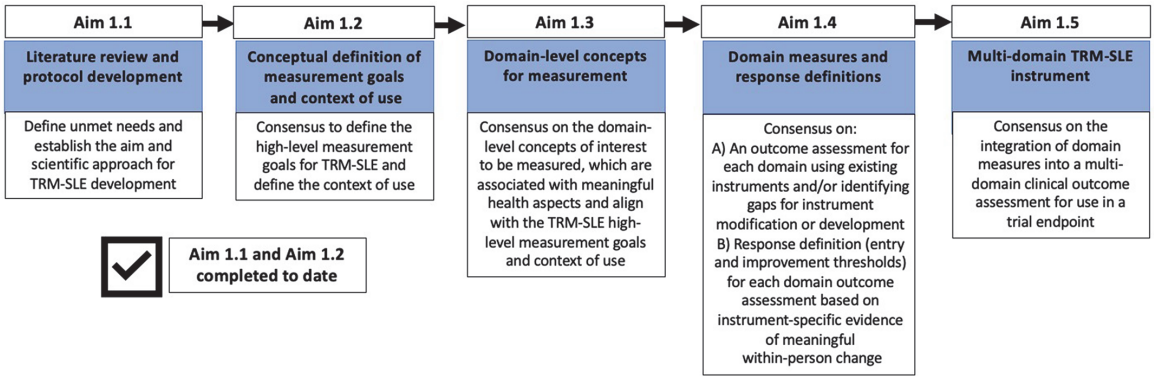


Abstract LO-033 Figure 1 Steps in the development of a novel COA for SLE clinical trials

Concurrent session 9: targeting organs

LO-034 PERFORMANCE OF COMBINING EYE SIGN AND FUNCTIONAL MAGNETIC RESONANCE IMAGING IN DIAGNOSING PATIENTS WITH NEUROPSYCHIATRIC SYSTEMIC LUPUS ERYTHEMATOSUS

Jenny Lin-Hong Shi*. *Therapeutic and Medicine, The Chinese University of Hong Kong, China*

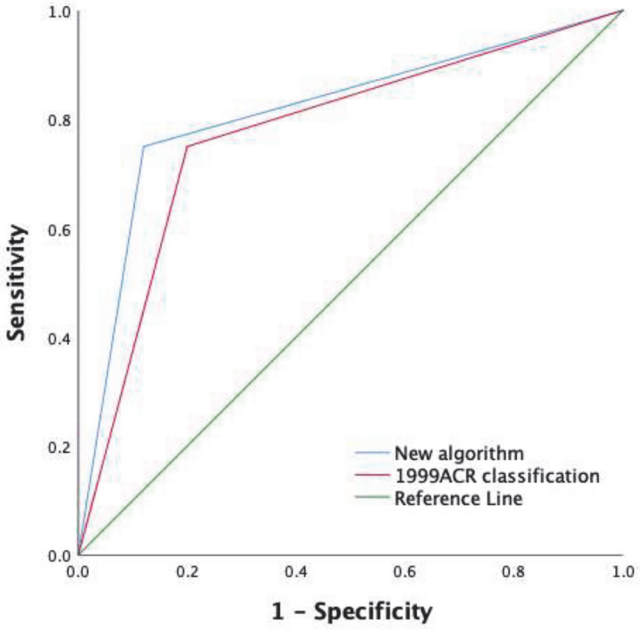
10.1136/lupus-2023-KCR.35

Background To investigate the alterations of eye sign and functional magnetic resonance imaging (fMRI) in patients with neuropsychiatric systemic lupus erythematosus (NPSLE) and to explore the performance of combining eye sign and MRI in diagnosing NPSLE.

Methods In phase 1, SLE patients were consecutively recruited Sep 2017 to Sep 2018 including NPSLE patients and non-NPSLE patients. Eye sign examination for bulbar conjunctival microvascular were performed for all SLE patients and fMRI scanning for NPSLE patients. Demographic and clinical data were compared between two groups and to identify potential predictors for NPSLE by using multivariable logistic regression analysis. In phase 2, NPSLE patients in phase 1 were enrolled, and a new diagnostic algorithm including predictors and changed fMRI indexes was designed with the 1999 NPSLE ACR classification as comparasion. Expert opinion was considered as golden standard. Double-blind clinical diagnosis from expert were recorded using new algorithm and reference standard. Area under the curve (AUC) under receiver operating characteristic (ROC) curve, sensitivity and specificity were calculated and compared between these two diagnostic methods.

Results 120 SLE patients were recruited (32.99±1.03 years) including 45 NPSLE and 90 non-NPSLE. NPSLE had higher disease activity (reflected as SLEDAI and ESR). Compared with Non-NPSLE group, fMRI showed changed fALFF and ReHo in brain regions relevant to cognition and emotion ($p<0.01$). Eye sign examination showed NPSLE group had significantly higher scores of ramified loops, vascular tone, microangioma, wound point and had higher total scores than non-NPSLE group ($p<.001$). In multivariable logistic analysis, SLEDAI, ramified loop, microangioma, wound point and presence of antiphospholipid antibodies were predictors of NPSLE (table 1). the AUC of the 1999ACR classification under ROC curve was 0.775, sensitivity was 75.0%, specificity was 80.0% ($p=0.002$), the AUC of new algorithm under ROC curve was 0.815, sensitivity was 75.0%, specificity was 88.0% ($p<.001$*) (figure 1).

Conclusions This proposed new algorithm showed not to be inferior to the 1999 ACR classification and need to be confirmed in further studies.



Abstract LO-034 Figure 1 ROC curve of potential predictors in diagnosing NPSLE

Abstract LO-034 Table 1 Multivariable logistic regression analysis of predictors for developing NPSLE

	HR (95%CI)	P-value
SLEDAI	1.34 (1.03-1.75)	0.029*
Ramified loop	7.42 (1.58-34.79)	0.011*
Microangioma	2.78 (1.45-5.33)	0.002*
Wound point	4.17 (1.07-16.32)	0.040*
Antiphospholipid antibodies	18.59 (1.87-185.31)	0.013*

NPSLE: neuropsychiatric systemic lupus erythematosus; SLEDAI: Systemic Lupus Erythematosus Disease Activity Index.