

## **Autoantibodies against Endothelin 1 Type A Receptor Are Strong Predictors of Digital Ulcers in Systemic Sclerosis.**

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### **Abstract**

#### **OBJECTIVE:**

To determine the predictive value of functional autoantibodies against vascular receptors for the development of ischemic digital ulcers (DU) in patients with systemic sclerosis (SSc).

#### **METHODS:**

Angiotensin II Type 1 receptor (AT1R) and endothelin 1 Type A receptor (ETAR) autoantibodies were measured at baseline in a prospective cohort of 90 patients with SSc together with 5 validated angiogenic markers. The primary outcome was the occurrence of at least 1 new ischemic DU during the 5-year followup.

### **RESULTS:**

Twenty-four patients developed at least 1 new DU during the followup period. Univariate Cox analysis revealed that concentrations above the median value of anti-AT1R and anti-ETAR antibodies were predictive of the occurrence of ischemic DU (HR 2.85, 95% CI 1.19-6.84 and HR 3.39, 95% CI 1.35-8.50, respectively). A first multivariate Cox analysis including functional autoantibodies and clinical predictors of new DU confirmed anti-ETAR autoantibodies as independent predictors of the occurrence of new ischemic DU (HR 3.15, 95% CI 1.22-8.13) together with a history of DU at baseline. In a second model implemented with angiogenic markers, anti-ETAR autoantibodies remained an independent predictor of the occurrence of new ischemic DU (HR 9.59, 95% CI 1.75-52.64) together with the presence at baseline of active DU or history of DU.

### **CONCLUSION:**

Anti-ETAR autoantibodies can be used together with the presence of current or past DU to identify patients with SSc who are at risk for the development of subsequent DU. These autoantibodies may allow for earlier management and therapeutic intervention.