Platelet inhibitors may reduce digital ulcers, a common, painful systemic sclerosis complication

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New research presented this week at ACR Convergence, the American College of Rheumatology's annual meeting, shows that use of platelet

inhibitors could be associated with a reduction in the occurrence of digital ulcers, painful sores on the extremities that can progress to gangrene, in people with systemic sclerosis.

Scleroderma, also called systemic sclerosis, is a relatively rare autoimmune disease that can affect various parts of the body including but not limited to the skin, lungs, vasculature, kidneys, intestines and other organs of the body. The immune system causes inflammation which can lead to scarring, known as fibrosis, in involved parts of the body causing dysfunction. Digital ulcers affect half of people with systemic sclerosis (SSc). If the ulcers lack proper blood flow, the involved digits can become gangrenous, and patients may require amputation. Because platelets are activated in SSc, it has been suspected that platelet inhibitors may play a therapeutic role in managing digital ulcers. Researchers developed and validated a prediction model for digital ulcers in patients with SSc, with use of platelet inhibitors as one possible predictive factor.

"In recent years, there has been significant progress in the treatment of digital ulcers. However, the complete prevention and healing of digital ulcers in patients with systemic sclerosis remains a big challenge in clinical practice," says Alexandru Garaiman, a doctoral student in Clinical Science at the Department of Rheumatology, University Hospital Zurich in Switzerland, and the study's co-author. "A plethora of vasoactive and cardiovascular medications, including platelet inhibitors, are used in SSc patients in routine practice. We wanted to evaluate if this medication, together with known clinical and laboratory parameters, might predict the occurrence of digital ulcers in these patients."

Researchers used prospectively collected data from the EUSTAR registry for the study. Patients included fulfilled the 2013 ACR/EULAR SSc classification criteria, and data on the presence of digital ulcers and platelet inhibitor use was included in the analysis. Data taken from the

last patient follow-up visit was split into two cohorts: A derivation model for patients recorded before Jan. 1, 2017 and a validation model for patients recorded after that date.

Out of 3,710 patients, 486 had current digital ulcers at baseline and 150 were exposed to platelet inhibitors. Participants were 14.6% male with a median age of 57, and 67.8% had limited cutaneous SSc with a median disease duration of almost 9 years. At follow-up visits about a year later, 487 patients had current digital ulcers and 90 remained exposed to platelet inhibitors. The investigators looked at a wide variety of factors that might positively or negatively predict digital ulcers in SSc patients, including smoking, sex, pulmonary arterial hypertension, and use of a variety of medications. Through their model, the investigators confirmed that for patients with SSc, exposure to platelet inhibitors predicted a lower likelihood of developing digital ulcers at their follow-up visit.

"This data may assist rheumatologists in decision making regarding the use of platelet inhibitors in SSc patients with digital ulcers," says Garaiman. "Importantly, what we have learned from our prognostic prediction model should be confirmed with a randomized clinical trial before any new treatment recommendations are made. If the therapeutic effect of platelet inhibitors can be confirmed, this would mean we have another treatment option for SSc patients with digital ulcers, and one that is readily available in most countries at a low price."

More information: Alexandru Garaiman et al, Prediction of Digital Ulcers in Patients with Systemic Sclerosis Based on the Use of Platelet Inhibitors and Other Parameters – A EUSTAR Study on Derivation and Validation of a Clinical Prediction Model [abstract]. *Arthritis Rheumatology* (2021). Available at acrabstracts.org/abstract/pred … ical-prediction-mod/

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