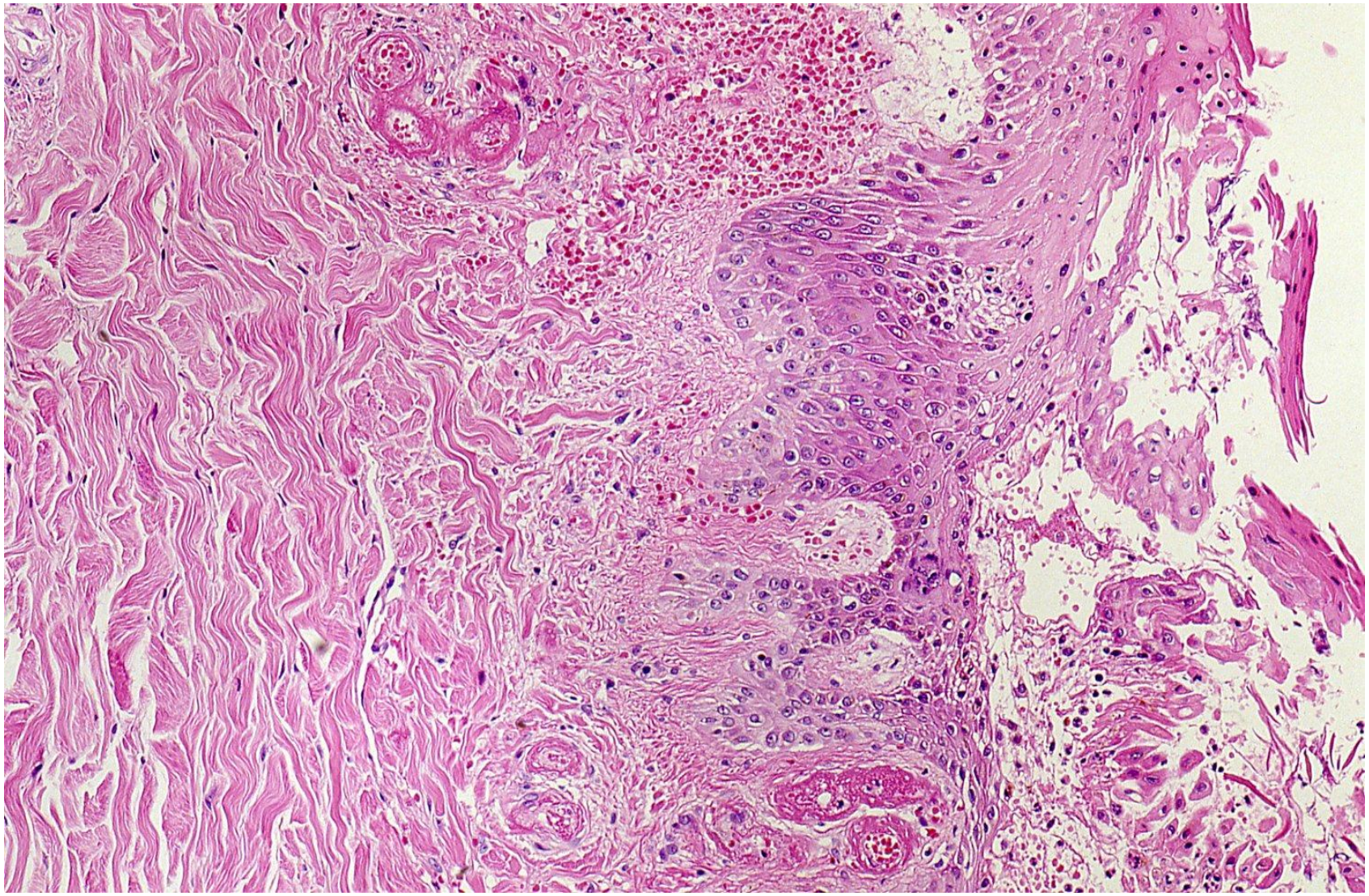
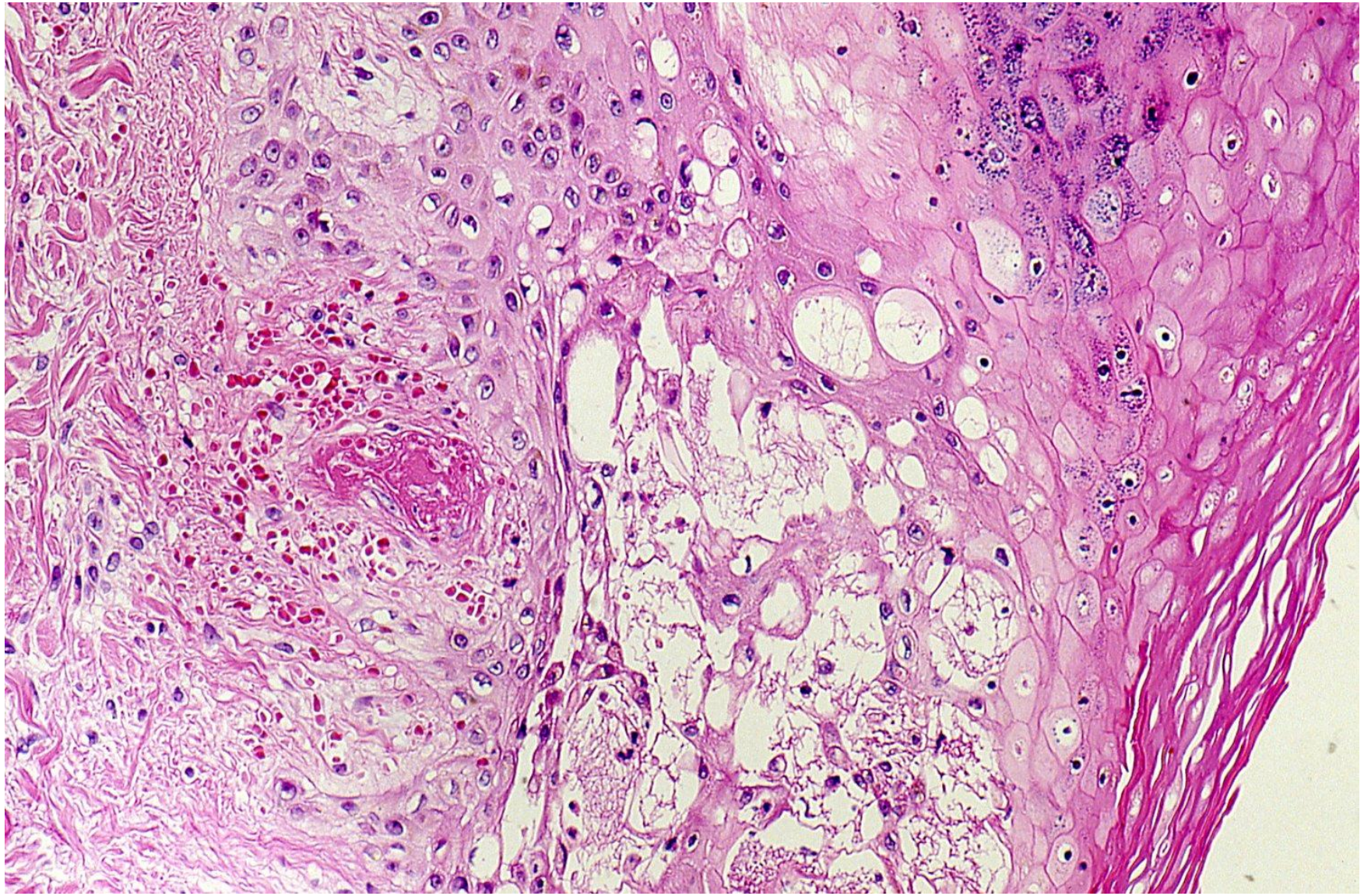
Hydroxyurea-induced cutaneous ulcer

Hydroxyurea (hydroxycarbamide), a cytostatic agent (a urea derivative) inhibiting ribonucleotide reductase in the S (synthesis) phase of the cell cycle, is used for treating myeloproliferative disorders, particularly essential thrombocythemia. Hydroxyurea-induced cutaneous ulcer is well-demarcated, round and painful, commonly formed on the lower leg of a patient on high-dose long-term treatment with hydroxyurea. Ulcers are solitary or multiple, and unilateral or bilateral, and are surrounded by erythema, fibrosis and cutaneous atrophy. The ulceration is a common adverse cutaneous effect, reported in up to 10% of patients undergoing long-term hydroxyurea. Reportedly, a cumulative toxic effect is involved in the development of the ulcer. Ulcer formation during hydroxyurea treatment is likely to be multifactorial in origin, including due to cytotoxic effects on epidermal basal keratinocytes and vascular endothelial cells, inhibition of collagen formation, and disturbance of the microvascular circulation. Trauma may play an initiating role given the common localization around the malleoli and pretibial sites. Hydroxyurea has also been used for treating sickle cell anemia and psoriasis vulgaris.

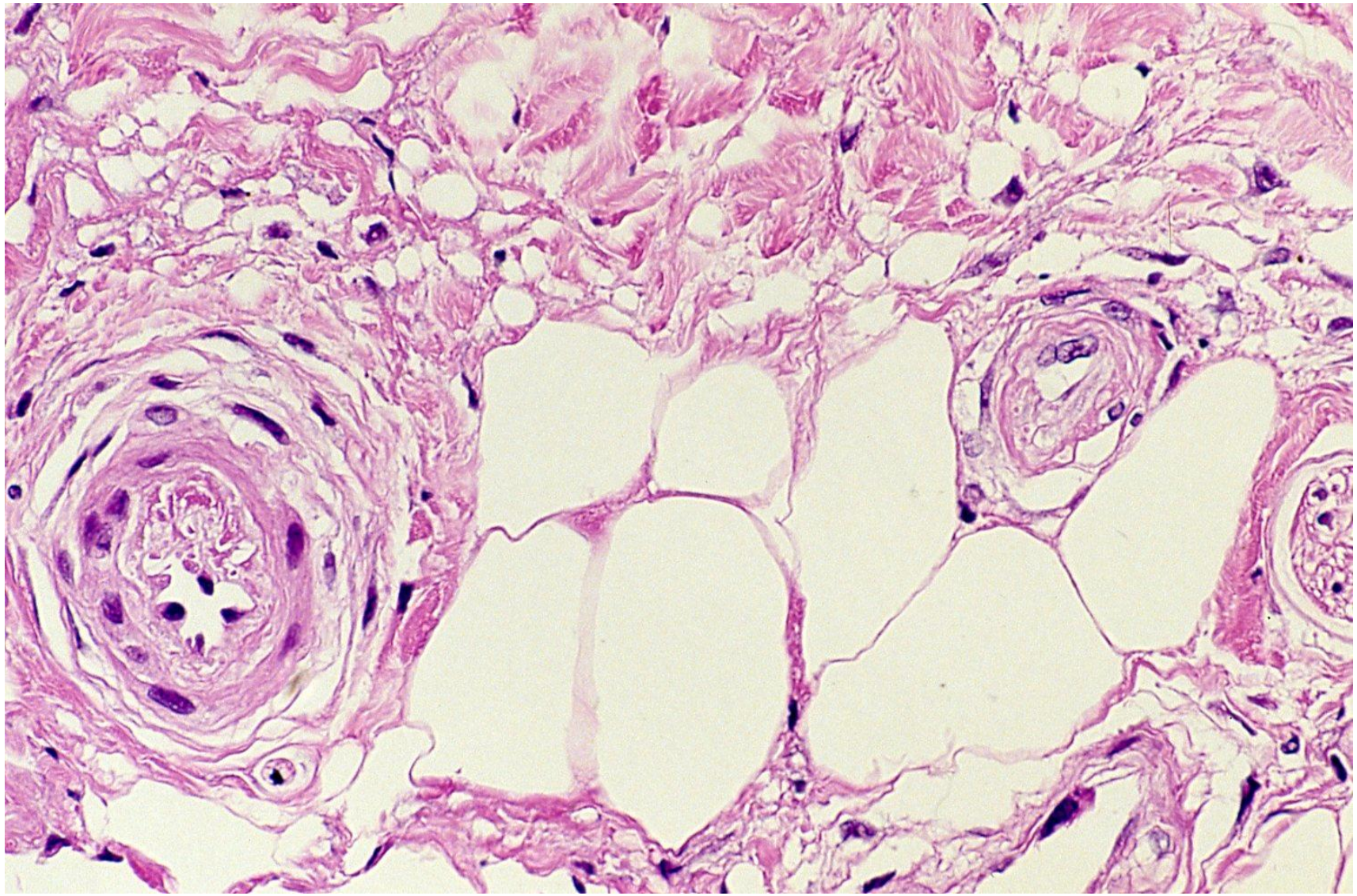
Ref.: Flora A. Hydroxyurea-induced cutaneous ulcer. DermNet Hydroxyurea-induced cutaneous ulcer



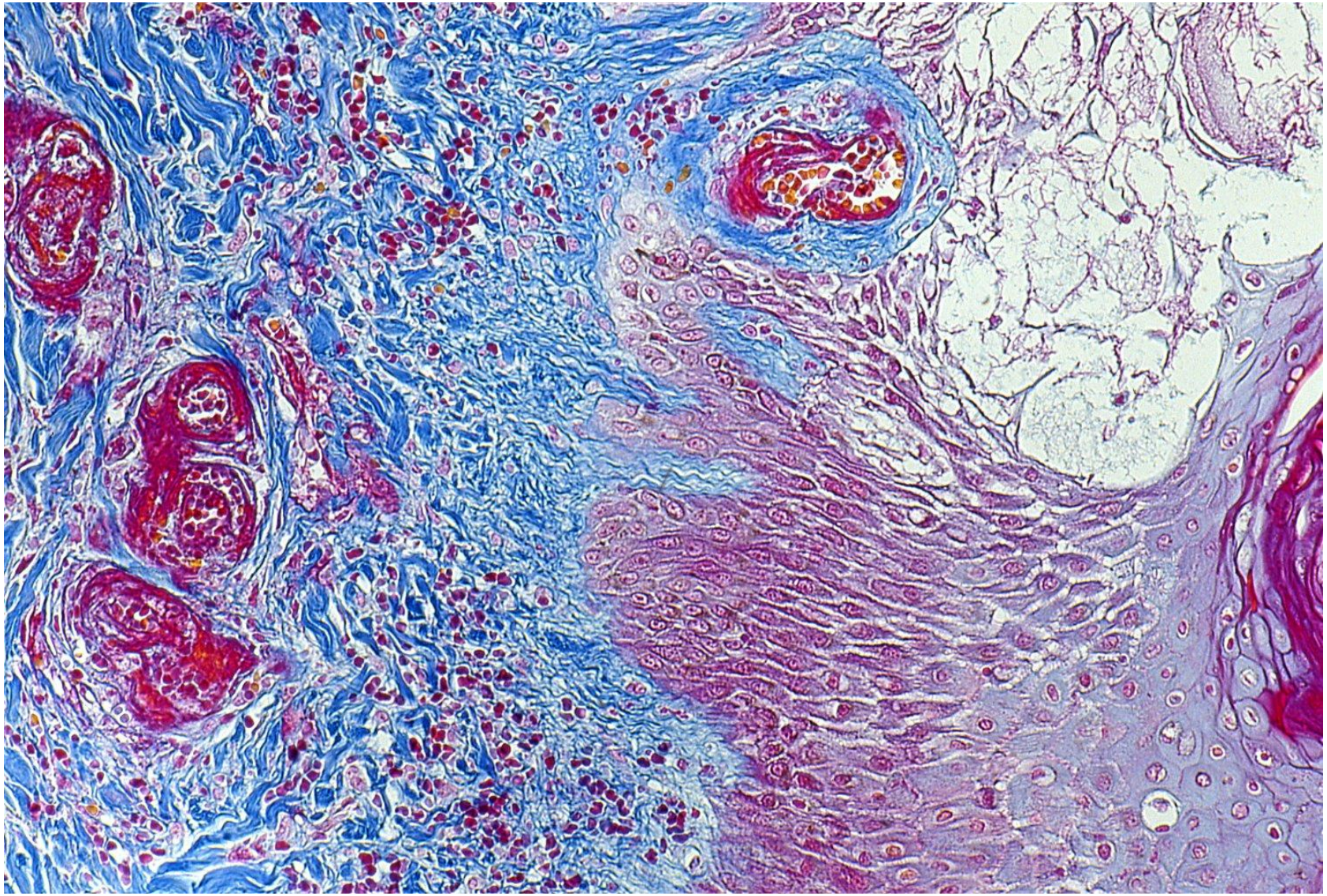
Hydroxyurea-induced cutaneous ulcer on the lower leg of a male patient of essential thrombocythemia aged 40’s (H&E-1). Hydroxyurea was employed for the treatment of the myeloproliferative disorder. Epidermolysis with microthrombosis is observed.



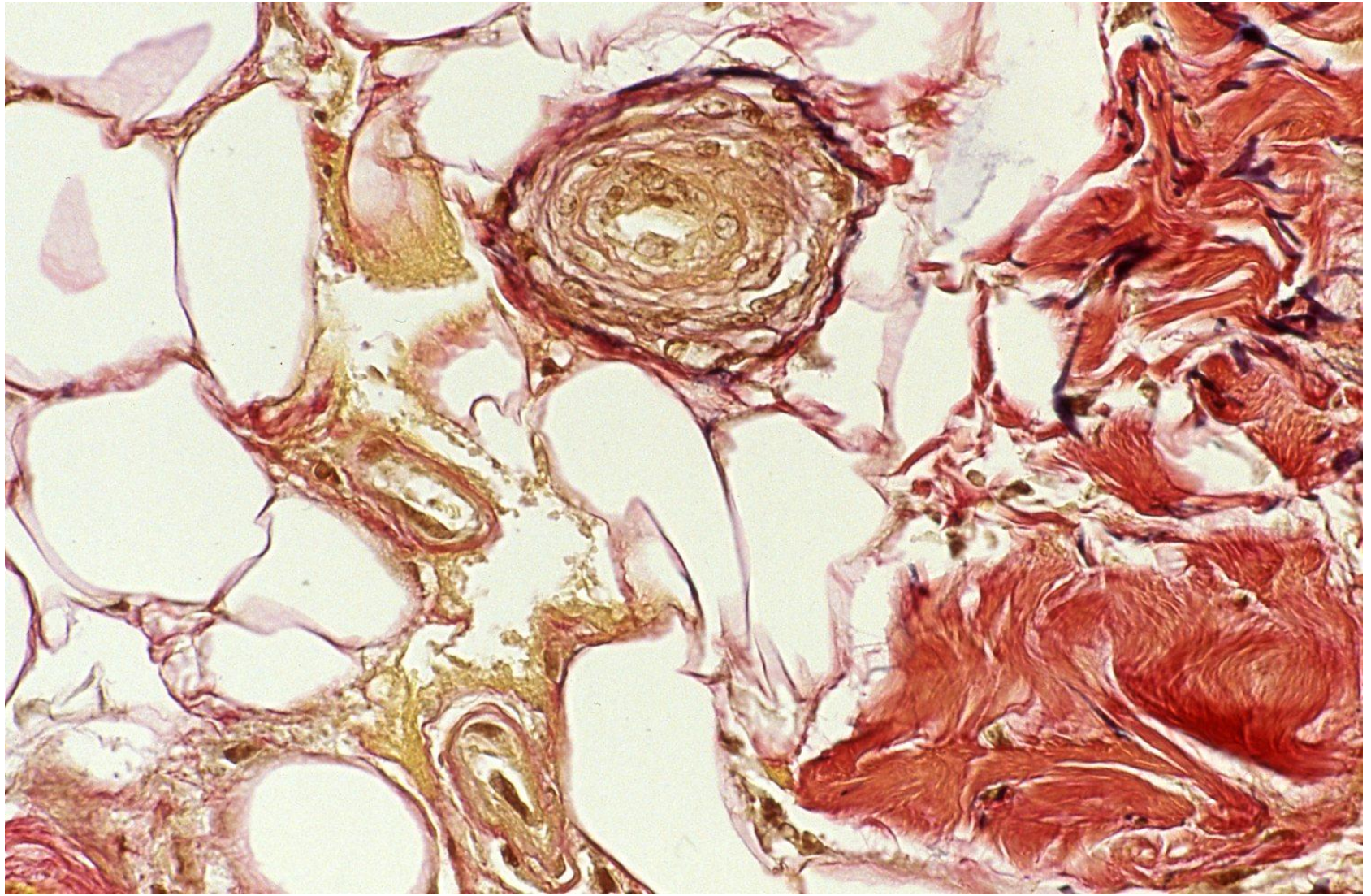
Hydroxyurea-induced cutaneous ulcer on the lower leg of a male patient of essential thrombocythemia aged 40’s (H&E-2). Hydroxyurea was employed for the treatment of the myeloproliferative disorder. Epidermolysis with microthrombosis is observed.



Hydroxyurea-induced cutaneous ulcer on the lower leg of a male patient of essential thrombocythemia aged 40's (H&E-3). Hydroxyurea was employed for the treatment of the myeloproliferative disorder. In the dermis, intimal thickening with stenosis of arterioles is observed.



Hydroxyurea-induced cutaneous ulcer on the lower leg of a male patient of essential thrombocythemia aged 40's (Azan). Hydroxyurea was employed for the treatment of the myeloproliferative disorder. Epidermolysis with microthrombosis is demonstrated.



Hydroxyurea-induced cutaneous ulcer on the lower leg of a male patient of essential thrombocythemia aged 40's (EVG). Hydroxyurea was employed for the treatment of the myeloproliferative disorder. In the dermis, intimal thickening with stenosis of arterioles is observed.