Calciphylaxis Is ‘Akin to a Myocardial Infarction’

BY BETSY BATES
Los Angeles Bureau

L A S V A G A S — An evolving understanding of the pathogenesis of calciphylaxis has led to a better appreciation of the condition as well as dialysis- and parathyroid-specific interventions. ‘Calciphylaxis is a therapeutic conundrum and also a nightmare,’ said Dr. Mark D.P. Davis, professor of dermatology at the Mayo Clinic, Rochester, Minn. ‘We urgently need better treatment and preventive strategies,’ he stressed at a dermatology seminar sponsored by Skin Disease Education Foundation. Dr. Davis, who is presently reviewing our experience with calciphylaxis patients ‘so they don’t further clot.’

‘One way to treat an existing clot is to use thrombolytic agents,’ he said. ‘Treatment strategies at Mayo focus on vascular occlusion, along with management of hypercalcemia (with low calcium and high phosphate in dialysis patients), hyperphosphatemia (with phosphate binding agents), hyperparathyroidism (with cinacalcet and bisphosphonates), and pain.’

‘We feel it’s very important to treat vascular occlusions and eliminate these luminal thromboses causing this cutaneous infarct,’ he said. ‘One way to treat an existing clot is to use thrombolytic agents.’

Several Mayo Clinic patients have been treated in this fashion with infused tissue plasminogen activator (tPA) at doses 1/10 of those used to treat a myocardial infarction. Because of concern over bleeding, patients are admitted for the 2-week procedure, he said.

‘We have had some success and are proposing to further refine the use of this approach,’ Dr. Davis said.

Anticoagulant medications, including heparin, low-molecular-weight heparin, and warfarin, are also used in calciphylaxis patients ‘so they don’t further clot.’

Dr. M.R. (Peter) Hayden, a calciphylaxis researcher who has published several studies on sodium thiosulfate as a possible treatment for calciphylaxis, said in an e-mail message that he is ‘looking forward excitedly to future papers’ on the anticoagulant approach from Dr. Davis and Mayo researchers.

‘Indeed, thrombolytic agents may be an important adjunctive intervention along with calcium-chelating agents and phosphate binding agents in appropriate patients because there are so many prerequisites for the development of calciphylaxis,’ wrote Dr. Hayden, research professor of internal medicine in the division of endocrinology, diabetes, and metabolism at the University of Missouri, Camdenton campus.

Other interventions have not fared as well. A comprehensive review of 64 patients treated at the Mayo Clinic failed to find any survival benefit for parathyroidectomy, despite case studies and series suggesting the surgery is beneficial (J. Am. Acad. Dermatol. 2007;57:365-6).

One promising approach is the use of pentoxifylline, a drug with a 1-year survival rate of 62%, compared with 27% survival rates in patients who failed to undergo the procedure. Because surgical and mechanical debridement are difficult to perform in patients with calciphylaxis, the underlying ‘vascular disease, painless debridement using mag-