three children with popsicle panniculitis who ranged in age from 6 to 22 months.[10,11]

The evolution, morphologic appearance, and resolution of the lesions in our patients were similar to those of classic cold panniculitis, but there are distinctive aspects about our patients that should be emphasized. They were all healthy young women in whom lesions developed on the superior-lateral sides of the thighs while they were participating in equestrian activities, either as an avocation or a profession. The lesions developed in areas that, although exposed to cold and wind, were also covered by tight-fitting but uninsulated riding pants. Although the patients wore no facial protection, lesions did not develop on the face. All patients gave histories of riding continually for at least two hours daily. Two patients had had prior episodes of skin lesions before presenting themselves for evaluation, and all knew of other women who rode long hours in whom similar but apparently less symptomatic lesions developed in the same anatomic areas. We interviewed men in the Charlottesville area who pursue similar equestrian activities and wear tight-fitting riding pants, but we have neither seen nor learned of any in whom cold panniculitis has developed.

A comparison of our histologic observations with those recorded in cases of cold panniculitis[5-9] showed sufficient similarities to support a diagnosis of cold panniculitis in our patients. The inflammatory reaction in equestrian cold panniculitis is most prominent at the interface between adipose tissue and the dermis. Deeper in the subcutis, the reaction diminishes. Fat necrosis is not massive and is evidenced primarily by rupture of fat cell membranes with resultant formation of small cystic spaces. An additional finding in our patients was the presence of patches of connective-tissue mucin, primarily hyaluronic acid. Others, describing cold panniculitis, have mentioned the perivascular distribution of the infiltrate and have commented on blood vessel wall swelling. We can specify that the involved vessels in our patients are small veins and venules.

Although we believe the lesions we describe are similar to those of cold panniculitis as defined in the literature, their anatomic distribution and the older age of the patients need to be explained. A progressive loss of sensitivity to the ice-cube test occurs in children with cold panniculitis as they grow older.[8-10] Moreover, it has been suggested that chemical differences between the adipose tissue of young children and that of adults could explain sensitivity to cold during childhood.[12,13] One could speculate that there are regional differences in chemical composition of adult fat that explain the sensitivity of the lateral part of the thighs to cold. Such differences are probably not necessary, however, to the distribution of lesions in our patients. It seems likely that the patients we describe had longer and more severe exposures to cold than many of the persons described in the literature. Our patients stated that air temperature and wind velocity were not factors limiting their equestrian activities; only precipitation halted their pursuits. They frequently subjected themselves to temperatures near or below freezing for two or more hours. Compounding the exposure, their horses trotted or galloped at velocities between 16 and 40 km/hr, at times into winds that, according to local meteorologic data, ranged from 16 to 48 km/hr. The lateral part of the thighs received the full brunt of these chilling factors. The use of tight-fitting, uninsulated riding pants could have slowed blood flow through the skin, further reducing tissue temperature. Although the nature of the cold exposure in our patients can be specified, the precise mechanism of injury in cold panniculitis is not known.

Since all patients refused to limit their equestrian activities to warmer months, we suggested that they ride for shorter periods and wear warmer undergarments. Three patients left the region and have not been available for follow-up evaluation. One patient, who restricted her riding to 20 min/day and wore looser, insulated pants, reported substantial clinical improvement.

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