depth of ulceration appeared to extend to subcutaneous tissue, without any visible evidence of hemangioma at the ulcer base, and it is possible that the proliferative potential of the lesion had been destroyed by the ulceration itself. In addition, the patient was receiving therapy with systemic steroids at the time the medication was used. This may have blunted any potential stimulatory effect of becaplermin on the hemangioma by contributing to the down-regulation of PDGF, an effect that has been demonstrated in at least 1 case of a hemangioma treated with intralesional corticosteroid. In addition, other factors, such as antibiotics and more aggressive wound care while in the hospital, may have contributed to more rapid healing of the ulceration.

Finally, an intriguing (though unproven) possibility is that the granulation tissue promoted by becaplermin arises through a different angiogenic pathway than the hemangioma itself. There is evidence for biological differences among granulation tissue, hemangioma tissue, and chronic wounds at the molecular level. For example, the erythrocyte-type glucose transporter protein (GLUT-1) is highly expressed in endothelial cells of hemangiomas of infancy but is absent from other benign vascular proliferations including granulation tissue. In addition, PDGF expression is down-regulated in chronic compared with acute wounds. Thus, becaplermin might act specifically to promote the healing of the ulcerated portion of the hemangioma without stimulating proliferation of the tumor vasculature.

Our case illustrates that becaplermin may be useful in the treatment of ulcerated hemangiomas that have not responded to conservative therapy. Although we remain concerned about the possibility that becaplermin could stimulate hemangioma growth, its use may be considered in cases of ulcerated hemangiomas that have the potential for significant morbidity and have failed conventional treatment.

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REFERENCES


Clinicians, local and regional societies, residents, and fellows are invited to submit cases of challenges in management and therapeutics to this section. Cases should follow the established pattern. Submit 4 double-spaced copies of the manuscript with right margins nonjustified and 4 sets of the illustrations. Photomicrographs and illustrations must be clear and submitted as positive color transparencies (35-mm slides) or black-and-white prints. Do not submit color prints unless accompanied by original transparencies. Material should be accompanied by the required copyright transfer statement, as noted in “Instructions for Authors.” Material for this section should be submitted to George J. Hruza, MD, Laser and Dermatologic Surgery Center Inc, 14377 Woodlake Dr, Suite 111, St Louis, MO 63017. Reprints are not available.