It is a very exciting time for clinicians who are confronted with infantile hemangiomas. So much new information is now available regarding pathogenesis, epidemiology, differential diagnosis, and therapy. These aspects are reviewed in greater detail in the accompanying articles by a group of experienced scientists and clinicians, who help provide a richer and more sophisticated understanding of these common vascular lesions.

Hemangiomas are common vascular tumors of infancy. These tumors have a largely predictable course of proliferation, plateau, and eventual involution. As a result, pediatric clinicians confronted with hemangiomas have traditionally emphasized active nonintervention for uncomplicated lesions.

Recent observations have suggested that earlier evaluation and consideration of earlier intervention for infantile hemangiomas may lead to better outcomes for affected infants. The most rapid period of hemangioma growth may occur earlier than originally thought. Reviews of serial photography at 1- to 2-week intervals over a 6-month period indicate that the growth velocity of hemangiomas is greatest between 5.5 and 7.5 weeks. Anatomic sites with hemangiomas that could become problematic therefore ideally should be evaluated before 8 weeks of age so that effective interventions can be initiated.1 Whereas older studies have reported that hemangiomas leave residua in about 10% to 15% of cases, a more recent report looked for any signs of hemangioma residua and found that 69% of involuted hemangiomas demonstrate remaining telangiectasia, atrophic scar, skin surplus, erythema, pigmentary disturbance, or some other textural abnormalities.2

Although some families may be satisfied with some of these changes, others may not find these acceptable; earlier intervention may provide an improved outcome for these children.

Complications may arise as a result of hemangiomas being located at inconvenient anatomic locations, developing ulceration, or having associated embryologic malformations (as seen with segmental hemangiomas of the head and neck or in the lumbosacral and genital areas).

Systemic corticosteroids had long been the mainstay of treatment for complicated hemangiomas. However, treating individual patients with steroids required a careful weighing of predicted benefits against potential risks of prolonged therapy.3 The serendipitous discovery of beta-blockers as an effective treatment of infantile hemangiomas has led to these agents largely supplanting corticosteroids as first-line therapy.4,5

Whether beta-blockers should be initiated in the hospital setting or the outpatient setting remains to be determined, but a large multicenter, international clinical trial as well as smaller clinical trials are underway to determine how these agents should best be administered. It is interesting to note that other pharmacologic agents that affect endothelial cell development are also being evaluated, including angiotensin-converting enzyme inhibitors such as captopril and sirolimus.6,7 As new agents are used to treat hemangiomas, they provide clues about the potential mechanisms behind endothelial cell proliferation and cell cycle control, which may lead to additional insights into other therapeutic alternatives.

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About the Guest Editor

Albert C. Yan, MD, FAAP, is the Chief of Pediatric Dermatology at the Children’s Hospital of Philadelphia and Associate Professor of Pediatrics and Dermatology at the Perelman School of Medicine at the University of Pennsylvania.

Dr. Yan received his undergraduate degree in Philosophy at Princeton University, his medical degree from the University of Pennsylvania School of Medicine, and subsequently completed his postgraduate training in pediatrics and dermatology at Children’s Hospital and Medical Center affiliated with the University of Washington, Seattle, and the University of Pennsylvania Medical Center, Philadelphia, respectively.

His clinical research interests currently include atopic dermatitis, infantile hemangiomas, nutritional deficiency syndromes, genetic skin diseases, and pediatric dermatology education.

Dr. Yan has previously served as President of the Society for Pediatric Dermatology and sits on the Executive Committee of the AAP Section on Dermatology. He maintains membership in the American Academy of Pediatrics, the Society for Pediatric Dermatology, and the American Academy of Dermatology. He is on the Advisory Board of the Melanoma International Foundation and the Medical Advisory Board of the Foundation for Ichthyosis and Related Skin Types.

Dr. Yan serves on the editorial boards of the journals Pediatric Dermatology, Cutis, and Dermatology Times. He is one of the three chief editors for the third edition of Harper’s Textbook of Pediatric Dermatology. He is co-author of dozens of original articles, book chapters, and abstracts. He has been recognized at his institution with resident teaching awards, and is a frequently invited speaker for local, regional, national, and international conferences.

Contact Dr. Yan at yana@email.chop.edu.