Infantile Hemangiomas: AAP Releases New Report

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A new clinical report on infantile hemangiomas (IHs) from the American Academy of Pediatrics highlights recent developments in the diagnosis and treatment of the most common tumors of childhood. The full report and an executive summary of the same title appear online September 28 and in the October issue of *Pediatrics*.

A thorough synthesis of evidence-based medical knowledge, the report is intended strictly as an educational tool, not formal practice guidelines. The latter are in the proposal stage and will likely be released a few years down the road, according to lead author David Darrow, MD, DDS, a professor of otolaryngology and pediatrics and director of the Center for Hemangiomas and Vascular Birthmarks at Eastern Virginia Medical School in Norfolk. "This report provides up-to-date information on recent developments in research, management strategies, and changes in diagnostic methodology," he told *Medscape Medical News*. "There are no 'shoulds' or 'musts' at this point, but the report will likely form the basis of future practice guidelines."

The comprehensive illustrated report is the first to involve all the specialties that treat these tumors: dermatology, ophthalmology, and general, plastic, and otolaryngological surgery. It covers nomenclature, prevalence, risk factors, pathogenesis, diagnosis, imaging, and complications, as well as therapeutic options such as medical treatment, surgery, and laser therapy.

Among its most important messages for pediatricians is the need for early identification and referral of potentially problematic tumors to appropriate pediatric specialists.

"There is no algorithm for treatment," Dr Darrow said. "Cases have to be managed very individually." Problematic cases may need a multidisciplinary specialist team to provide all the necessary expert interventions.

One trend highlighted in the report is the switch from treating these tumors with steroids, which have many adverse effects, to using systemic β-blockers such as the cardiovascular drug propranolol. In 2008, propranolol was serendipitously found to shrink IHs faster than usual, and it is quickly becoming standard medical treatment. "We're telling pediatricians here what we know about the differences between steroids and propranolol; we're not telling them they must be using this cardiac drug," Dr Darrow said.

The origins of the current report go back to a meeting in Bethesda, Maryland, in 2005, at which experts agreed that pediatricians needed more information on these tumors. "There had been an assumption that because they tend to involute and shrink over time and go away, no one needed to receive treatment," Dr Darrow said. "But a lot of kids in fact had complications that never got addressed because pediatricians believed the tumors would disappear with no consequences."

And although many do resolve, some cause serious functional and even life-threatening complications, such as severe erosion of the skin, breathing problems, heart failure, and visual and eating problems.

In addition to discussing expanded therapeutic options, the wide-ranging report helps pediatricians with the crucial task of identifying which tumors are more likely to cause complications. It also introduces new terminology and distinctions such as that between segmental and focal IHs. "Segmental tumors involve large flat areas of skin and are now a big concern because they tend to cause ulcerations," Dr Darrow said.

The document sheds important new light on the way these lesions grow as well. "What has not been not known until relatively recently is that the vast majority of angiomas occur between the sixth week of life and the end of fifth month," said Dr Darrow. "If it takes several months before they're referred to a specialist for complications, the damage cannot be reversed." So if a pediatrician sees the potential for complication, the patient needs specialized assessment in the first couple of months of life before irreversible problems occur.

Of special concern are IHs in cosmetically disfiguring areas such as the head and neck and bulky tumors near the eyes, nose, and lips. Ulcerations are big concern with segmental IHs and those in the diaper area, and deep tumors can affect the liver. Large masses near the eye can prevent infants from developing vision, and those in the chest can affect the airway, Dr Darrow said.

The report notes that in 98% of IHs, imaging is not necessary, although ultrasound may be used to detect liver involvement and magnetic resonance imaging to image the extent of involvement in the eye/orbit or, rarely, the brain.

Vigilance and early referral remain critical, Dr Darrow stressed. "The days of benign neglect are gone as practice turns to managing IH more actively."

"The incidence of IH is estimated at approximately 5% of infants, and the female/male ratio ranges from 1.4:1 to 3:1," the authors write. "IH risk factors include white race, prematurity, low birth weight, advanced maternal age, multiple gestation pregnancy, placenta previa, and preeclampsia. Other risk factors may include in utero diagnostic procedures (chorionic villus sampling and amniocentesis), use of fertility drugs or erythropoietin, breech presentation, and being first born." Residual skin changes such as telangiectasia, scarring, dyspigmentation, and fibrofatty tissue are left behind by up to 70% of IHs.

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