

Hemangioma Risk Tied to Low Birth Weight

BY PATRICE WENDLING
Chicago Bureau

CHICAGO — A recent multivariate analysis found that low birth weight is the single most significant risk factor for having a hemangioma of infancy.

These findings come at a time when the rates of preterm and low-birth-weight infants continue to rise in the United States, mainly because of assisted reproductive technologies, Dr. Ilona J. Frieden said at the American Academy of Dermatology's Academy 2008 meeting.

In 2005, 8.2% of infants born in the United States weighed 2,500 g or less—the highest percentage since 1968. Physicians can expect to see more hemangioma patients, and should use anatomic location and growth patterns to assess risk and management options, she said.

If one assumes a 15% incidence in preterm infants, 50,000 infants in 2005 in the United States would have one or more infantile hemangiomas, compared with 20,000 in 1985, said Dr. Frieden, director of pediatric dermatology at the University of California, San Francisco.

The new findings are based on research by the Hemangioma Investigator Group (HIG) that compared 420 infants with hemangiomas with 353 patients without

hemangiomas seen for other skin problems. With use of multivariate logistic regression analysis, low birth weight was identified as the single most significant risk factor for having a hemangioma.

For each 500-g decrease in weight from a control group of 3,000-g to 3,500-g infants, there was a 29% increase in risk, Dr. Frieden said.

The current study whittles down a list of significant risk factors identified by an earlier HIG study that included female gender; white, non-Hispanic race; prematurity; low birth weight; multiple gestation; and advanced maternal age (*J. Pediatr.* 2007;150:291-4).

Dr. Frieden said traditional descriptions of infantile hemangiomas as superficial, deep, or mixed fail to capture essential differences in these benign tumors, and that a better classification schema is needed.

Most hemangiomas of infancy can be classified as "segmental" or "localized," she postulated. Segmental hemangiomas cover a broad anatomic region or recognized developmental unit such as the entire ear, while localized hemangiomas are

confined spatially and often appear to arise from a central focal point.

Prior research has shown that segmental lesions are larger, require more intensive and prolonged therapy, and are more

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frequently associated with developmental abnormalities, complications, and a poorer overall outcome (*Arch. Dermatol.* 2002;138:1567-76).

More recent data from the HIG, an international consortium of researchers,

confirmed these findings. Infants with segmental hemangiomas were found to be 11 times more likely to experience complications and 8 times more likely to receive treatment than were those with localized hemangiomas (*Pediatrics* 2006; 118:882-7). The effect persists, even when controlled for size, Dr. Frieden said.

In addition to distribution, hemangiomas have distinct growth patterns, suggesting a critical period of intervention in the first few weeks to months of life. HIG findings to be published in an upcoming issue of *Pediatrics* indicate that hemangiomas reach 80% of their maximum size at a mean age of 3 months. By 5 months

of age, 80% of hemangiomas have completed their growth, she said. Segmental hemangiomas were found to present 1 month earlier, yet were 10 times larger than were localized hemangiomas.

Intervention, when necessary, is best during this early period because treatments such as systemic corticosteroids work better at preventing growth than shrinking established lesions, Dr. Frieden said.

She proceeded to highlight a pilot study in France that showed rapid improvement with the use of propranolol in nine infants with severe infantile hemangiomas (*N. Engl. J. Med.* 2008;358:2649-51).

Dr. Frieden characterized the findings as very exciting, but cautioned that the drug's use in infants is off label and that there is no consensus on how to monitor for side effects in very young children. Potential side effects include hypoglycemia, bradycardia, hypotension, and exacerbation of asthma, she noted.

Dr. Frieden said in an interview that she has started two children with complicated segmental hemangiomas on propranolol, but after just 4 weeks, it is too early to say if it is helping.

Dr. Frieden is a consultant for Pierre-Fabre Dermo-Cosmétique and is planning drug studies with propranolol. ■

Post-Cesarean Pain Can Be Forecasted

BY SUSAN BIRK
Contributing Writer

CHICAGO — Anticipated pain, anxiety, and sensitivity to standardized audio tones can predict a woman's pain experience and narcotic requirements following cesarean section, according to a study of 118 recipients of elective C-sections.

"These findings indicate that simple questions prior to cesarean section can help providers identify patients who may be at risk for inadequate pain control and subsequent development of persistent pain and depression," Dr. Ashley M. Tonidandel of Wake Forest University, Winston-Salem, N.C., reported at the annual meeting of the Society for Obstetric Anesthesia and Perinatology.

Previous research presented at last year's meeting indicated that pain severity following delivery is a stronger predictor of persistent pain and postpartum depression than is method of delivery.

The link between acute pain and postpartum depression, which can impair the mother's ability to attach to the infant, underscores the need for an easy method of identifying at-risk patients, Dr. Tonidandel commented.

"The Joint Commission suggests that it's both a hospital standard and a patient right to have a goal for

pain scores of less than four," she said.

To date, Dr. Tonidandel and her colleagues have collected data on 118 parturients who underwent elective C-section with subarachnoid anesthesia and spinal morphine.

Most of the patients were undergoing repeat C-sections, and the rest were undergoing primary sections for breech and other reasons.

During the preoperative anesthetic consultation, patients were asked

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a set of questions regarding their level of anticipated pain and anxiety.

They also rated the loudness of a series of tones with a visual analog scale.

Chart reviews provided data on actual narcotic usage in the postanesthesia care unit and 24 hours after surgery.

Assessments of resting pain, evoked pain, and satisfaction with pain control also were conducted 24 hours after surgery using the same visual analog scale.

Patient scores on anticipated pain, anxiety, and sensitivity to sound predicted levels of narcotic usage in the postanesthesia care unit and at 24

hours post surgery, as well as degree of resting and evoked pain.

Satisfaction with pain control was generally high and was not associated with patient scores.

Anticipated pain surfaced as the most significant predictor of post-surgical pain and analgesic requirements; however, audio sensitivity was an important and unique predictor of narcotic usage in the postanesthesia care unit as well.

Previous research has shown that sensitivity to heat can help predict narcotic requirements after cesarean delivery (*Anesthesiology* 2006;104:417-25). However, the use of audio stimuli, which were shown to be predictive in this study, provides "a nice way to get around having to use heat on parturients before C-section," Dr. Tonidandel said.

"By asking patients [a few questions] preoperatively, I'm much less surprised by what happens later," she added.

As more data are collected, Dr. Tonidandel and her colleagues plan to develop threshold scores to identify patients who might benefit from early intervention and the initiation of customized, multimodal pain management.

The model used in this study also may have potential applications for patients undergoing other types of surgery, they said. ■

Mother's Thyroid Disease Linked to Congenital Heart Abnormalities

MONTEREY, CALIF. — Women with thyroid disease are 50% more likely to have a child with left ventricular outflow tract obstruction than women without thyroid disease, according to a study that compared about 6,000 women in each of the two groups.

In particular, the risk of aortic valve stenosis and/or coarctation of the aorta appeared to be elevated, Marilyn L. Browne of the New York State Department of Health and her colleagues wrote in a poster presentation at the annual meeting of the Teratology Society.

There were no other statistically significant associations between maternal thyroid disease and congenital cardiovascular malformations.

The multicenter case control study was part of the National Birth Defects Prevention Study (NBDPS), which collects data from 10 regions in the United States. The investigators identified 6,068 women with a thyroid disease whose babies were born between October 1997 and December 2004 and compared them with 5,875 controls.

There were no significant demographic differences between the case and control groups, they reported.

The odds ratios were adjusted for potential confounders, including maternal age, race/ethnicity, education, prepregnancy BMI, gestational diabetes, smoking, alcohol use, and the state of residence at time of delivery.

The investigators acknowledged that their study did not identify the women's underlying thyroid conditions. They recommended that additional studies should evaluate the risks of antithyroid medication and should examine risk by type of thyroid disorder.

Ms. Browne stated she had no conflicts of interest to disclose related to her presentation.

—Robert Finn