

Infantile esotropia linked to developmental delays

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Babies with an eye-alignment disorder called infantile esotropia have delays in motor development milestones, but development “catches up” after corrective surgery, reports a study in the April Journal of AAPOS (American Association for Pediatric Ophthalmology and Strabismus).

Led by James R. Drover, PhD, of the Retina Foundation of Southwest Texas, Dallas, the researchers assessed developmental milestones in 161 infants with infantile esotropia, or crossed eyes. These infants need surgery on the eye muscles to correct the alignment. However, it has been unclear whether surgery to correct esotropia influences other aspects of infant development.

To answer this question, the researchers had parents complete an infant development questionnaire before and/or after corrective surgery. The questionnaire assessed fine-motor skills, such as grasping a toy and handling a bottle (sensorimotor development); as well as large-muscle skills, such as sitting, standing, and walking (gross motor development). A group of children with normal eye alignment were studied for comparison.

Before surgery, infants with esotropia had delays in both milestones. The developmental delays appeared as early as four to five months of age and were still present at ten months.

The sensorimotor delays were “particularly profound,” and probably reflected the importance of normal binocular vision (both eyes working

together) in fine-muscle tasks. The delays in gross motor development, while not as severe, were still significant.

In contrast, infants tested after esotropia surgery had no delays in developmental milestones. In fact, they actually had a faster rate of sensorimotor development, suggesting that correcting their binocular vision helped their development to “catch up” to that of normal infants.

Infantile esotropia is one of a group of disorders called strabismus, in which the eyes are not aligned normally. Without surgery to correct the problem, depth perception cannot develop. Because vision develops rapidly between three to eight months of age, infantile esotropia might cause delays in developmental milestones—for example, grasping objects, crawling, or walking—that depend on normal vision. However, previous studies were unclear as to whether early surgery helps normal development, partly because many babies with esotropia are not sent for expert evaluation by a pediatric ophthalmologist until they are over one year old.

The new results show that babies with infantile esotropia have significant delays in developmental milestones before surgery, and, suggests that development catches up to normal after surgery to correct eye alignment. Dr. Drover and colleagues suspect that the rapid rate of development after surgery results from the improvement in binocular function.

“Doctors continue to disagree over when is the best time to correct strabismus in children, because most of the focus has been on when it can best help their vision,” comments Dr. David G. Hunter of Children's Hospital Boston and editor-in-chief of the Journal of AAPOS. “This study says that surgery to correct strabismus doesn't just help the eyes—it helps the whole child.”

Source: Elsevier

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