Pediatric Delirium Found Linked to High Mortality

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SANTA ANA PUEBLO, N.M. — Pediatric delirium is rarely discussed in the medical literature and hardly ever diagnosed in practice, but Dr. Susan Beckwitt Turkel contends that children may be as vulnerable as elderly patients.

"I think when we say that children don't get delirium, it is because it is very rarely diagnosed by pediatricians, and most consultation-liaison psychiatrists don't bump into it," Dr. Turkel said at the annual meeting of the Academy of Psychosomatic Medicine.

Pediatric delirium "is probably very common, and when it does occur, it is typically mistreated," said Dr. Turkel, chief of neuropsychiatry and child adolescent psychiatry at Childrens Hospital Los Angeles.

She speculated that age-related changes in the cholinergic systems may put children and the elderly at risk for delirium.

"It may have something to do with the development of the cholinergic system in the brain and then the decline of cholinergic system in the brain," she said.

Children present with many of the characteristic symptoms in the DSM-IV, but, because pediatricians think in a developmental context, they describe "behavioral regression," according to Dr. Turkel.

She suggested many children become delirious while running high fevers from common conditions treated at home.

At Childrens Hospital, a tertiary care referral center, she and a colleague reviewed 84 cases involving very sick children who were the subject of psychiatric-liaison consultations from 1991 through 1995 (J. Neuropsychiatry Clin. Neurosci. 2003;15:431-5).

Delirium was identified in 45 males and 39 females, ranging in age from 6 months to 18 years. Their length of stay ranged from 1 to 255 days, with an average 41 days.

Infection was the most common cause of delirium, but mortality was higher in children with organ failure, autoimmune diseases, or a recent transplant. Overall, the mortality rate was 20%.

All of the children had impaired attention and fluctuating symptoms, often described as "waxing and waning." Nearly all had impaired alertness, confusion, sleep disturbance, and impaired responsiveness. Exacerbation at night and disorientation also were common.

Apathy and agitation were documented in more than two-thirds of the children. Only about half had memory impairment. Fewer than half hallucinated, and none had perceptual disturbance, delusion, paranoia, or hypervigilance.

"These are not things you see in children," Dr. Turkel said, adding that when children do hallucinate, the experience is more likely to be auditory than visual.

Dr. Turkel said she has since compared the children with 968 adults, aged 30-100 years in 10 published delirium studies. "Overall, you see the same symptoms in toddlers, children, adolescents and adults, but maybe at different rates," she said, noting that the articles concerning adults were not consistent with each other in reporting data.

Many adult diagnostic techniques cannot be used with very young children, so she suggested asking pediatric hospital patients where they are. "If they tell you they are at home or at school, you can tell they are disoriented," she said. "They don't have the same specificity you get from an adult."

Sometimes a child will talk to someone who is not there, she said. Mood changes, irritability, and sleep changes also are clues.

"The inattention may not be picked up, but we get the consult because they are not sleeping," she said. "They nap a little while, and wake up really cranky."

Dr. Turkel described her approach to delirium treatment as multifactorial. Physicians treat the underlying condition, she said, but also look for sedating and anticholinergic medications that may be playing a role.

She said she works closely with the child's family, advising parents that their job is to tell children where they are each time they wake up irritable and confused. "You tell them . . . 'You are in the hospital, you are sick, and mommy is here.' That is often enough to calm them down," she said.

Positioning the children near a window can help them distinguish day from night, she added.

If these interventions do not work, she said she gives the child a small dose of an atypical antipsychotic. Benzodiazepines and anticholinergic agents should be avoided, she said, as they can make delirium worse and even precipitate delirium. ■