Depression, Medical Problems Dog Hydrocephalus Shunts

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SAN FRANCISCO — Shunt revisions are necessary in a “startlingly high rate” in patients with hydrocephalus diagnosed in infancy or childhood, Dr. Nalin Gupta said at the annual meeting of the American Association of Neurological Surgeons. Like the need for shunt revision, infections and functional problems continued into adulthood, judging from the findings that a retrospective study of 1,459 patients found.

“By focusing on surgical complications, we underestimate the impact of hydrocephalus,” Lifelong medical treatment and complications are to be expected,” said Dr. Gupta.

He and his associates studied survey responses collected by the Hydrocephalus Association from 1,459 people with pediatric diagnoses of hydrocephalus. The data included 10-year follow-up information for 718 respondents, and 403 of these were at least 20 years of age at the time of the survey.

Most respondents developed hydrocephalus during gestation or in infancy, with 16% diagnosed before birth and 42% diagnosed before 18 months of age, said Dr. Gupta, chief of pediatric neurological surgery at the University of California, San Francisco.

Shunts to treat hydrocephalus were placed in 97% of cases. Approximately 31% of respondents had between 1 and 10 shunt revisions. Among 581 people diagnosed with hydrocephalus before 18 months of age, only 8% reported no shunt revisions; another 25% underwent more than 10 shunt revisions, he said. People who reported more than 10 shunt revisions had a median age of 21 years; most were in their 20s.

Hydrocephalus diagnosed later in childhood was also associated with a high rate of shunt revisions. Among 137 people diagnosed after 18 months of age, 15% needed no shunt revisions, 23% underwent more than 10 revisions, and the rest fell in between.

Shunt-related infections were common as well. One or two infections were reported by 29% of respondents; among a subset of patients diagnosed before 18 months of age, at least a third reported one or two infections, and a small percentage reported many more infections, Dr. Gupta said.

The proportions of shunt revisions exceed what is reported in the literature for hydrocephalus diagnosed in childhood, and the proportion of infections is higher than what physicians usually describe to families contemplating shunt placement, said Dr. Timothy B. Mapstone, who discussed the study at the meeting. The true extent of revisions and infections probably is even worse, he added.

The data emphasize the need to be sure that a shunt is needed before placing one, said Dr. Mapstone, the Harry Wilkins Chair in neurosurgery at the University of Oklahoma, Oklahoma City.

Other complications, including shunt breakdown, overdrainage, and subjective symptoms, were reported by 36% of respondents. “To me, this was an unacceptable rate of complications associated with this disease,” Dr. Gupta said, noting the study’s design limits its usefulness.

Respondents who were diagnosed with hydrocephalus during infancy were more likely to report being depressed or to have used special assistance in school, and were less likely to be married, have children, be employed, or have a driver’s license, compared with those diagnosed after 18 months of age.

Among a subset of 403 respondents currently aged 19-45 years who were diagnosed with hydrocephalus before age 19 years, a majority reported being depressed and 37%-45% reported receiving treatment for depression, depending on their age at diagnosis. Fewer than 25% had completed a college education.

The respondents were 53% male, and 85% were white.