

# The Psychosocial Aspects of Growth Delay

During the past century, studies of the effects of short stature on personality development and social function have been plagued by anecdotal reporting and lack of objective, reliable testing procedures. This has led to inconsistent and often conflicting results. However, with the possibility of an unlimited supply of growth hormone (GH) for therapeutic use in the near future, there is an urgent need for sound scientific data on which to base future therapeutic decisions.

To address this problem, approximately 150 psychologists, sociologists, social workers, psychiatrists, endocrinologists, parents, and patients gathered in Washington, DC, this past October to attend a symposium on the psychosocial aspects of growth delay. Brian Stabler, Ph.D., and Louis Underwood, M.D., both of the University of North Carolina at Chapel Hill, served as moderators of 13 formal presentations and discussion periods that dealt with the behavior patterns, cognitive functioning, psychological status, and social integration of persons with GH deficiency, constitutional short stature, Turner's syndrome, chondrodystrophies, and deprivation dwarfism.

The issue of whether height affects academic achievement was addressed by Drs. C. Holmes (Des Moines), R.A. Richman (Syracuse, NY), P.T. Siegel (Ann Arbor, MI), and D. Young-Hyman (Baltimore). They all reported that actual school performance levels are discouraging, despite a normal range of intelligence quotients (IQs) in children with hypopituitarism and constitutional short stature. Dr. Holmes suggested that this may be related, in part, to decreased social competence in the mid-teen years. Dr. Young-Hyman pointed out that perhaps not enough attention had been paid to differentiating measures of personality adjustment from measures of social competence—eg, peer relationships and participation in extracurricular activities.

Dr. Richman found no severe psychological problems (as determined by a variety of psychological

tests) in these children. However, he suggested that subtle personality traits, such as shyness, low self-esteem, and increased internalization of complaints, as well as specific parental attitudes, such as increased permissiveness and decreased communication, may contribute to the children's poor school performance. Dr. Siegel reported that the pattern of poor academic performance was due, in part, to specific unrecognized cognitive defects, ie, learning disabilities. She noted, however, that in her group of GH-deficient subjects, 50% had at least one high-risk perinatal factor such as asphyxia or breech delivery, which could also have contributed to the cognitive defects.

In contrast to these four studies, R. Rosenfeld and D. Wilson of Stanford University reported a positive relationship between height and IQ. Their finding was based on a very large sample of normal children from the National Health Examination Survey. Rosenfeld and Wilson hypothesized that about 4% of the variance of IQ in the general population could be accounted for by height.

The unrecognized cognitive defects described by Dr. Siegel in the group of children with GH deficiency were underscored by Drs. H.C. Steinhausen (Berlin) and J. Downey (Columbia University) in their discussions of the perceptual defects in women with Turner's syndrome. The minor psychiatric problems experienced by the majority of these women were similar to those in an age- and size-matched group of females with constitutional short stature, suggesting that these problems are directly related to stature.

To assess the psychosocial benefit of increasing final adult height, Drs. R. Clopper (Buffalo), A. Johanson (Charlottesville, VA), and H. Dean (Winnipeg, Manitoba) described the long-term social outcome of GH-deficient adults treated with GH during childhood. In the three populations studied, the educational records were average but the rates of employment and marriage were low. The reasons for this

overall social maladjustment remain speculative. A significant proportion of these subjects expressed greater concern over their immature physical appearance than their short stature.

Dr. D. Rotnem (Yale University) discussed the pivotal role of family interaction in the ultimate psychosocial outcome of children with all forms of growth delay. She addressed the problems of parenting a short child, specifically in terms of the ambiguity of the child's size v age. She outlined various ways in which parents have learned to cope with the problem and identified risk factors associated with poor capability: lack of consistency, conflict between parents, ambivalence, and guilt.

Drs. D. Drotar (Chicago) and C. Anecillo (Baltimore) described poor psychosocial adaptation as not only a result, but also a major cause, of growth delay in infants.

One of the recurring themes of the meeting was the continued inconsistency in results obtained from the currently available battery of psychological tests. These tests do not appear to be sufficiently sensitive to identify subtle social problems. There was general agreement among the conferees that there are serious psychosocial problems associated with growth delay, and concern was expressed that these problems remain ill-defined. In his after-dinner speech, Dr. L.P. Sawisch noted that the limited attention paid to growth-related psychosocial problems is deeply rooted in society's preoccupation with height. It is therefore difficult to study these problems in isolation. The frustration expressed by the investigators regarding inadequate research tools, study design, and testable hypotheses was echoed by the parents and patients. Children and parents also perceived a lack of sensitivity on the part of the health-care and education systems. Parents felt that school personnel in particular were ill equipped to deal with the psychological needs of children with delayed growth and suggested that health educators be actively involved in programs to increase public awareness of growth-related problems.

Among the questions posed by

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the participants at the end of the conference were the following: In the study of psychosocial issues should all persons with short stature be considered as a group or divided into separate diagnostic categories? Should they be viewed as a group with a chronic disease and compared with other groups of children with chronic medical disorders? Is it relevant to study groups to compare early v late adolescence and late adolescence v early adulthood? What is the best way to explore and control for varying degrees of family functioning? What is the most appropriate way to develop more reliable, sensitive, and standardized test procedures? It seems likely that the rapid pace of development in biotechnology and the future commercial availability of GH will provide the impetus for a new era in scientific endeavor to answer these important social questions.

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*Dr. Dean is a guest contributor for this issue. A highly respected pediatric endocrinologist with a special interest in the psychological aspects of growth disorders, Dr. Dean was among the speakers at the symposium reported above.*