GROWTH HORMONE BENEFITS CHILDREN WITH 18q DELETIONS

by

Jannine D. Cody¹, Margaret Semrud-Clikeman², L. Jean Hardies³, Jack Lancaster³, Patricia D. Ghidoni¹, Rebecca L. Schaub¹, Nora M. Thompson¹, Lynda Wells⁵, John E. Cornell⁶, Tanzy M. Love⁷, Peter T. Fox³, Robin J. Leach¹,⁸, Celia I. Kaye¹, Daniel E. Hale¹

1 Department of Pediatrics, University of Texas Health Science Center, 2 Department of Educational Psychology, University of Texas, 3 Research Imaging Center, University of Texas Health Science Center, 4 Department of Psychiatry and Behavioral Health Sciences, University of Washington, 5 Department of Anesthesiology, University of Texas Health Science Center, 6 Department of Medicine, University of Texas Health Science Center, and South Texas Veterans Healthcare System, Gerontology Research Education and Clinical Center, 7 Department of Statistics, Iowa State University, 8 Department of Cellular and Structural Biology, University of Texas Health Science Center

May 2004

ABSTRACT

Most individuals with constitutional deletions of chromosome 18q have developmental delays, dysmyelination of the brain and growth failure due to growth hormone deficiency. We monitored the effects of growth hormone treatment by evaluating 23 individuals for changes in growth, performance intelligence quotient (pIQ) and quantitative brain MRI changes. Over an average of 37 months, the treated group had an average pIQ increase of 17 points, an increase in height standard deviation score of 1.7, and significant change in T1 relaxation times in the caudate of the white matter. The non-statural changes are previously undescribed effects of growth hormone treatment.