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## THE SOTOS SYNDROME - *NSD1* HAPLOINSUFFICIENCY: CEREBRAL GIGANTISM UPDATE

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### INTRODUCTION

Cerebral gigantism (OMIM 117550) is characterized by excessive pre- and postnatal growth, a characteristic face, and developmental delay with a prevalence of ~1:14,000 births.<sup>1</sup> In more than 90% of patients, Sotos syndrome is due to haploinsufficiency of *NSD1* (**N**uclear Receptor-Binding **S**u-var, Enhancer of Zeste, and Trithorax **D**omain Protein **1**, chromosome 5q35, OMIM 606681).<sup>2</sup> Cerebral gigantism is thus a genomic

disorder—a pathologic state due to loss, gain, or disruption of a dosage-sensitive gene that results in a recognized phenotype.<sup>3</sup>

### CLINICAL CHARACTERISTICS

In patients with cerebral gigantism, rapid linear growth begins during gestation; at birth, length is more than +2 standard deviations (SD) above mean length for gestational age and gender in 85% of neonates, while birth weights are usually within the high normal range. Neonates with Sotos syndrome may also have prolonged jaundice, hypotonia, and feeding difficulties.<sup>2</sup> Linear growth remains rapid throughout infancy and childhood. Because skeletal maturation is also advanced, adult heights of patients with Sotos syndrome are usually near or slightly

### From The Editor's Desk

Dear Colleague:

This column usually highlights the content of the journal; in this issue I want to bring to your attention the e-reviews and editorial comments. This section was expanded to 10 reviews of current articles as more of our readers are taking advantage of this feature. The online reviews and comments are often slightly longer or contain more detail than the printed reviews. The article on sex assignment attitudes of pediatric urologists is interesting and worthy of your consideration. The new diagnostic imaging techniques in congenital hypothyroidism should become available in all medical centers. The issues of quality of life and mental health of adolescents seeking bariatric surgery need be considered as we now deal with this problem on a frequent basis. Not least are the important data discussed in the other reviews dealing with clinical conditions such as CAH, Klinefelter's syndrome, and progeria, as well as reviews of experimental data on GHR, longevity and calorie restriction, hippocampal GH, and congenital contractures.

The lead article is a much-needed update on Sotos syndrome which was first described in 1964, at a time when heterozygous microdeletions in *NSD1* were not known, but are present in over 90% of these patients. Drs. Root and Diamond reviewed the genetic considerations of this condition and didactically clarified the mechanisms of the disease. The 8 reviews and comments complete this issue with an array of the most pertinent recent advances in the field.

Other pertinent additions to www.GGHjournal.com include new sections on clinical guidelines and clinical trials. These are most useful for those who want current recommendations or to apprise themselves of the clinical research trials ongoing in the field and other areas. The search capability and archives sections have been enhanced and a very important feature added—a CME offering is now available on the resources webpage.

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