

Removal of hypothalamic hamartoma curbs compulsive eating and excessive weight gain

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Neurosurgeons at the University of Texas–Houston and Children's Memorial Hermann Hospital (Houston, Texas) report on the success they achieved when they removed a hypothalamic hamartoma (HH) from a 10-year-old girl to combat hyperphagia (excessive appetite and compulsive overeating) and consequent unhealthy weight gain. To the best of the authors' knowledge, this is the first time resection of an HH was performed for this particular reason. Findings in this case are reported and discussed in "Successful treatment of hyperphagia by resection of a hypothalamic hamartoma. Case report," by Yoshua Esquenazi, M.D., David I. Sandberg, M.D., and Harold L. Rekate, M.D., published today online, ahead of print, in the *Journal of Neurosurgery: Pediatrics*.

The patient was a 10-year-old girl who for three years had been treated medically for precocious (premature) puberty due to the presence of a hypothalamic hamartoma (HH), a noncancerous lesion in the brain. Treatment involved monthly intramuscular injections of a gonadotropin-releasing hormone (GnRH) analog. This therapy slowed the girl's [sexual maturation](#) but did nothing to curb her compulsive eating and [excessive weight gain](#), which is often associated with precocious puberty due to HH. By the time the patient was 10 years old, she weighed 103 kilograms (227 pounds) and she continued to gain 5 pounds per month on average. Counseling on nutrition was ineffective.

The girl's continual [weight gain](#) was of great concern. Medication and counseling had done nothing to retard her overeating. Although the

neurosurgeons could find no precedent in the literature, they decided to remove the hypothalamic hamartoma (HH) in the hopes that this would control the patient's hyperphagia. Dr. Esquenazi and colleagues call it a "last-ditch effort." The surgery went smoothly, the authors report, and immediately thereafter the girl's appetite diminished and she began eating smaller portions. Eighteen months after surgery, the patient's weight was still the same as it had been before the operation, but it no longer increased, which was the goal of surgery.

"The decision to proceed with this surgery," according to Dr. Sandberg, "was undertaken with great thought and after numerous discussions with the patient's family. We were cautious about proceeding with a major operation in which the probability of success was completely unknown. The patient, her family, and treating physicians were all delighted with the outcome."

A hypothalamic hamartoma (HH) is a rare, congenital, disorganized collection of normal brain cells (glia and neurons) located in or around the hypothalamus. Although some HHs are asymptomatic, others are responsible for seizures, particularly gelastic ones (which present as inappropriate outbursts of laughing or crying), behavioral or cognitive problems, or precocious puberty (33% of cases of precocious puberty are caused by HHs). Precocious puberty is usually treated medically with a GnRH analog until the patient reaches 12 or 13 years of age. Removal of the HH by surgery is recommended when medical therapy fails to correct the hormone imbalance. In the present case, medical therapy was effective in arresting sexual maturation, but surgery was required to cure the patient's hyperphagia.

More information: Esquenazi Y, Sandberg DI, Rekate HL. Successful treatment of hyperphagia by resection of a hypothalamic hamartoma. Case Report. *Journal of Neurosurgery: Pediatrics*, published online, ahead of print, April 9, 2013; [DOI: 10.3171/2013.2.PEDS12552](https://doi.org/10.3171/2013.2.PEDS12552)

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