# A disease of mistaken identity

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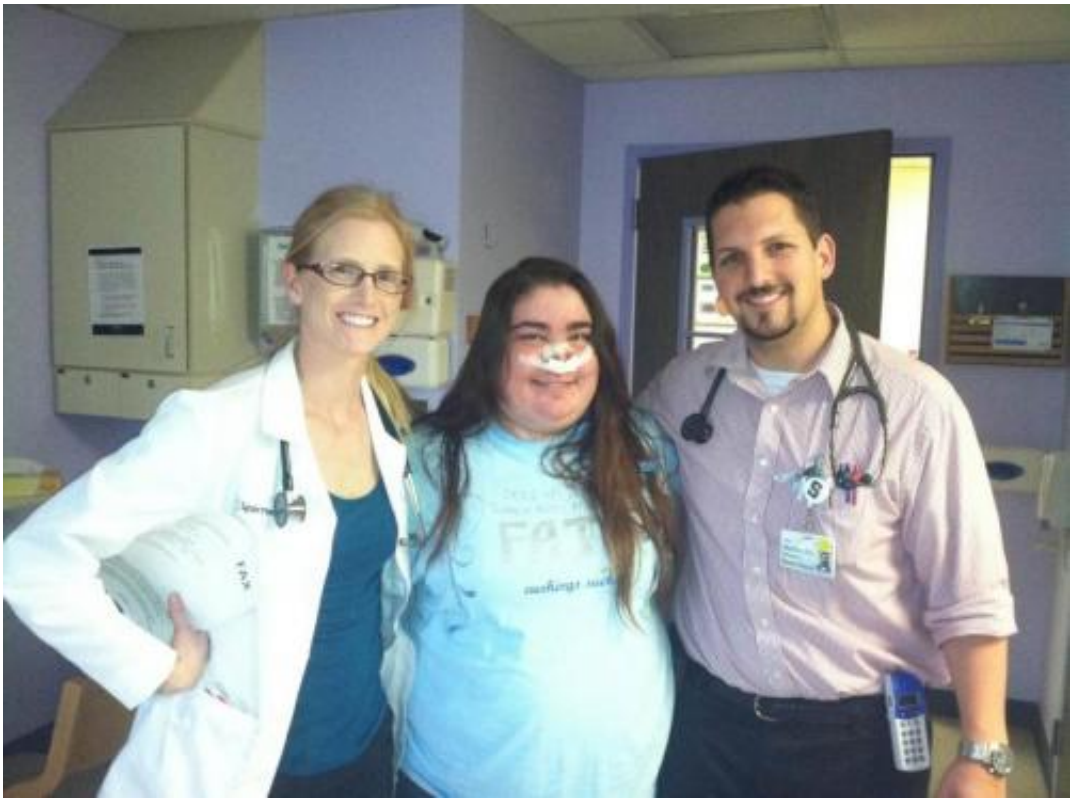

Pictured is Sydney Kandell with MSU and Sparrow Hospital residents Tiffany Burns and Lee Murphy just after surgery to remove the aggressive tumor that was causing her rare form of Cushing disease. Credit: Sydney Kandell

The symptoms of Cushing disease are unmistakable to those who suffer from it – excessive weight gain, acne, distinct colored stretch marks on the abdomen, thighs and armpits, and a lump, or fat deposit, on the back of the neck. Yet the disorder often goes misdiagnosed.

To help combat misdiagnosis, Saleh Aldasouqi, an associate professor in the College of Human Medicine at Michigan State University, is drawing more attention to the rare disease through a case study, which followed a young patient displaying classic, yet more pronounced signs of the condition.

Caused mostly by small benign tumors in the pituitary gland that increase levels of the hormone cortisol, the disease and the growths initially can go undetected. Many of the symptoms are shared with other health issues, so the disease itself can be mistaken for obesity or depression in its early stages.

Aldasouqi, who is also a senior endocrinologist at the university, presented the study with MSU postgraduate students and co-authors Tiffany Burns, Deepthi Rao and Mamata Ojha, at the Endocrine Society's annual International Congress of Endocrinology in Chicago on June 21.

For Sydney Kandell, her symptoms brought her to the emergency room multiple times over the course of a year with no clear diagnosis coming until she turned 18 years old. Now a community college student with aspirations of attending MSU in pediatric endocrinology, Kandell's condition has greatly improved after treatment.

Sydney Kandell, diagnosed with an extremely rare form of Cushing disease, is pictured here during her senior year in high school before severe signs of her disease started taking effect. Credit: Sydney Kandell

"What was so different about Sydney's case was the size of the tumor we found and the excessive weight she put on in such a short amount of time," Aldasouqi said. "She gained about 100 pounds just in her senior year of high school, and her tumor was so much larger and more aggressive. It wreaked havoc on her body."

The aggressive tumor, known as Crooke's Cell Adenoma, made Kandell's case extremely rare with less than five percent, or about 100 cases like hers, reported worldwide.

The pea-size pituitary gland is part of the endocrine system and is found at the base of the brain. It's often considered the master gland, controlling other glands such as the thyroid and adrenal, as well as many of the body's everyday hormonal functions including body temperature, testosterone and estrogen.

A photo of Sydney Kandell today shows the significant progress she has made since her surgery last October that removed the aggressive tumor causing her rare disease. Credit: G.L. Kohuth, Michigan State University

"When you have even the smallest of tumors in this gland, it can significantly disrupt the way the body functions," Aldasouqi said. "Sydney's condition was elevated due to the size of her tumor, and now it's through her story that other clinicians and even patients can learn to pay more attention to the symptoms and achieve an early diagnosis."