Transgender Hormone Therapy May Raise Stroke, Heart Attack Risks: Study

A new study indicates people with gender dysphoria receiving so-called "gender affirmation" hormone replacement therapy are significantly more prone to stroke, heart attack, and blood clots.

Hormone replacement therapy usually involves gender dysphoria patients taking either testosterone or estrogen. It has seen growing popularity over recent years among American teenagers and young adults who identify as transgender and wish to have their body more closely resemble their preferred gender.

Both testosterone and estrogen are known to have wide-ranging effects in one's body, including boosting the clotting activity of blood. This has raised concerns that receiving hormone replacements might increase the risk of serious cardiac events.

In the latest study shedding light on those concerns, researchers at Mercy Catholic Medical Center in Darby, Pennsylvania, reported that patients who had taken hormone replacements are nearly seven times more likely to suffer an ischemic stroke—a blockage in a vessel supplying blood to the brain—than those who had never received the treatment.

Compared with their non-hormone treated counterparts, hormone-treated patients were also found to be nearly six times more likely to suffer myocardial infarction, the most serious type of heart attack. They also saw nearly five times the risk of pulmonary embolism, a blockage in an artery in the lung.

Dr. Ibrahim Ahmed, the study's lead author and resident at Mercy, said those who wish to undergo a "transition" should be aware that the therapy is not a "risk-free endeavor."

"It's all about risks and benefits," Ahmed said in a press release. "Starting transitioning is a big part of a person's life … but hormone replacement therapy also has a lot of side effects—it's not a risk-free endeavor."

In what they described as the largest study to date investigating the cardiovascular risks of gender affirmation therapy in the transgender population, researchers retrospectively examined rates of cardio events in over 21,000 people with gender dysphoria from a national database of hospital records, of whom 1,675 had used hormone replacement therapy.

Researchers found that patients who took hormone replacements had higher rates of substance use disorder and hypothyroidism. They didn't find evidence that hormone replacement therapy was associated with higher rates of death or with increased rates of atrial fibrillation, diabetes, hypertension, hemorrhagic stroke, or heart failure. "Looking at a person's medical and family history should definitely be part of the screening protocol before they even start hormone replacement therapy," Ahmed said. "It is also important that people considering this therapy are made aware of all the risks."

Researchers did note, however, that the study only accounted for whether or not a patient had ever used any type of hormone replacement therapy. They didn't assess how risks were affected by factors such as the duration of treatment, the patient's age at which the treatment started, or the type of hormone therapy used, which they said would better inform clinical decisions.

The study, titled "Cardiovascular Outcomes in Gender Dysphoric Patients Undergoing Hormone Replacement Therapy," is set to be presented on March 5 at the American College of Cardiology's Annual Scientific Session in New Orleans.

An estimated 1.6 million Americans 13 years or older identify as transgender, according to a June 2022 analysis by the University of California Los Angeles (UCLA) School of Law. The analysis is based on health survey data from the U.S. Centers for Disease Control and Prevention from 2017 to 2020.

According to the UCLA report, about 1.4 percent of 13- to 17-year-olds and 1.3 percent of 18- to 24-year-olds identify as transgender. Together, those numbers translate to a population of approximately 700,000 Americans. A previous UCLA report (pdf) showed that those numbers stood at 0.7 percent in 2017 when the federal government started reporting them.