

Researchers describe rare case of heart rhythm problem in newborn with Turner syndrome

30 April 2021



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Doctors treating babies born with Turner syndrome need to look for heart rhythm abnormalities, in addition to the usual heart problems of high blood pressure or left-sided structural heart defects, according to Meena Bolourchi, MD, assistant professor of pediatrics at Boston University School of Medicine.

Turner syndrome occurs in one out of 2,500 live female births and is caused by the complete or partial absence of one X chromosome. Compared to the [general population](#), females with Turner syndrome have a three times higher risk of early death from cardiovascular disease.

In the general newborn population, [cardiac arrhythmias](#) occur in approximately 24.4 per 100,000 live births and may occur with or without [congenital heart disease](#). The most common arrhythmia is supraventricular tachycardia (SVT) (abnormally fast heart rate coming from the top chambers of the heart) with an incidence of one

per 250 to one per 1,000 [pediatric patients](#) depending on the source. Atrial flutter occurs less often, with an incidence of 2.1 per 100,000 live births and typically does not reoccur after treatment. While one study of newborns with [atrial flutter](#) showed that 25 percent had a second atrial arrhythmia, none of them had an underlying genetic syndrome.

Now for the first time, researchers report on a newborn with Turner syndrome having atrial flutter followed by SVT. "This is the first case of a baby with Turner's syndrome who was found to have more than one type of arrhythmia. This case illustrates that arrhythmias from the top chambers of the heart (atrial arrhythmias) can be found in babies with Turner's syndrome," explains corresponding author Bolourchi.

To date, there had been no known associations between Turner syndrome and the development of atrial flutter with or without SVT. Bolourchi stresses that if a baby or child has been diagnosed with Turner syndrome, it would be important to look for [heart rhythm abnormalities](#), in addition to the usual heart problems of high blood pressure or left-sided structural heart defects.

"This case illustrates that infants and children with Turner syndrome may be at risk for cardiovascular rhythm disorders, such as atrial flutter or supraventricular tachycardia. "Early and precise investigation of such cardiac abnormalities is important to reduce morbidity and mortality of these patients," adds Bolourchi, a pediatric cardiologist at Boston Medical Center.

These findings appear online in the *European Heart Journal*.

More information: Yeyoon Choi et al, Neonatal

arrhythmias in Turner syndrome: a case report and review of the literature, *European Heart Journal - Case Reports* (2021). [DOI: 10.1093/ehjcr/ytab160](https://doi.org/10.1093/ehjcr/ytab160)

Provided by Boston University School of Medicine

APA citation: Researchers describe rare case of heart rhythm problem in newborn with Turner syndrome (2021, April 30) retrieved 24 September 2022 from <https://medicalxpress.com/news/2021-04-rare-case-heart-rhythm-problem.html>

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