

# Human heart disease recently found in chimpanzees

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This image shows researcher Lydia Tong. Credit: Lydia Tong

While in the past century there have been several documented examples of young, healthy athletes who have died suddenly of heart disease during competitive sporting events, a new study finds that this problem also extends to chimpanzees. According to an article published today in the SAGE journal *Veterinary Pathology*, Arrhythmogenic Right Ventricular Cardiomyopathy (ARVC), a human heart disease that causes sudden cardiac death in teenagers and young adults (particularly healthy athletes), has now been identified in chimpanzees.

"It is the first description of this condition in a [primate species](#) apart from humans," stated primary author of the study Dr. Lydia Tong. "The circumstances of these two cases in [chimpanzees](#) mirror the common presentation of the condition in humans. The two half-brother chimps were teenagers apparently at their peak health (16 and 17 years old), and one of the chimp died suddenly during [physical exertion](#)."

The chimpanzees had been living at a UK zoo when the deaths occurred in 2004 and 2008, and Professor Mary Sheppard, a specialist in Human Sudden Cardiac Death, was part of the team that helped perform the autopsies. Professor Sheppard examined the hearts as she would normally do for a young person who had died in similar circumstances. The specialist found that the changes in these hearts were nearly identical to those examined in humans.

"The big question is—what causes the disease in chimpanzees, and what are the common factors with human disease?" Dr. Tong stated. "In humans we know that there is a [genetic component](#) in about 50% of cases but the other factors are not well understood. It has been theorized that viral exposure, levels of exercise, and dietary variables may influence development of the condition in humans. More work needs to be done to determine if the same [genetic changes](#) may be occurring in affected chimpanzees, and whether other influences at play."

Dr. Tong discussed the implications of this new finding for future research, "The bottom line is that this finding and similar future research will assist us in understanding and managing this disease of young otherwise healthy chimps, a tremendously important and endangered species. Furthermore, as the closest relative to the human, future research has the potential to help us understand the same disease in humans."

**More information:** "Fatal Arrhythmogenic Right Ventricular Cardiomyopathy in 2 Related Subadult Chimpanzees (*Pan troglodytes*)" published in *Veterinary Pathology*.

Provided by SAGE Publications

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