Beat: Health

SARS-like novel coronavirus may have originated from bats

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USPA News - Researchers examining the feces of South African bats have discovered a virus closely related to the new novel coronavirus, suggesting the SARS-like virus may have originally originated from bats before finding its way to humans. A collaboration of researchers from the Institute of Virology at the University of Bonn in Germany, the University of Stellenbosch in South Africa, and several other South African institutions, examined fecal material from a total of 62 bats from 13 different species for coronaviruses.

Their colleagues in Germany, headed by Dr. Jan Felix Drexler, then investigated the genetic material of the viruses that they found. In one fecal sample from a bat of the species Neoromicia cf. zuluensis they discovered a virus that is genetically more closely related to the novel cornavirus than any other known virus. The researchers believe the novel coronavirus, which has recently become known as the Middle East Respiratory Syndrome Coronavirus (MERS-CoV), may have originally come from bats but could have reached the human population through other animals which may have acted as intermediate hosts. The new coronavirus first emerged in the Middle East last year and is now known to have infected more than 90 people, including 45 people who died from the illness. The disease re-emerged at a health care facility in Saudi Arabia`s eastern province of Ahsaa in May and infected at least fifteen patients, more than a month after the last case of the virus had been reported. Experts are still unsure how people are being infected, whether it is from animals, from contaminated surfaces, or from other people. And although there is no evidence yet of continuous human-to-human transmission, the World Health Organization (WHO) has said it appears likely that the virus is able to pass from person-to-person in the event of close contact. The German and South African scientists emphasized Africa should be taken into account as experts continue to investigate where the novel coronavirus originated from. They pointed out that Rift Valley fever originated in East Africa and later caused outbreaks in Saudi Arabia and Yemen in 2000. "Further studies of bats and potential interim hosts are urgently needed to elucidate the origin of MERS-CoV," the University of Bonn said in a news release. But the scientists cautioned that their finding does not mean that humans can become infected through exposure to bats, and warned it should not serve as a reason for the persecution of bats. "On the contrary, bats provide value to ecosystems in several respects and should enjoy strict protection," they said. "It is however likely that bats are the natural hosts for the virus, and that human infections are the result of contact with other animals such as camels acting as intermediate hosts." Earlier this month, French researchers said the novel coronavirus is "not yet" spreading fast enough to have pandemic potential. They used a measurement called the basic reproduction number, or R value, to determine whether the virus is presently posing an immediate threat to reach pandemic potential. But the mathematical study found the rate of human-to-human transmission is lower than SARS. The researchers from the Emerging Diseases Epidemiology Unit at the Pasteur Institute in Paris used data from the World Health Organization (WHO) as well as published descriptions of novel coronavirus cases. Their study took into account 55 of the now more than 90 laboratory-confirmed cases. Using their most optimistic scenario, the researchers estimated the novel coronavirus has a basic reproduction number of 0.60, compared to 0.80 for the pre-pandemic SARS virus. When the basic reproduction number is greater than 1.0, the number of cases can grow exponentially and lead to a full-blown pandemic. But their most pessimistic scenario put the basic reproduction number at 0.69. They noted that, because of the recent implementation of effective contact tracing and isolation procedures, further transmission data might no longer describe an entire cluster, but only secondary infections directly caused by the index patient. As a result, the French researchers calculated that, under the pessimistic scenario which puts the value at 0.69, eight or more secondary infections caused by the next index patient would translate into a 5 percent or higher chance that the revised basic reproduction number would exceed 1. "Our analysis suggests that MERS-CoV does not yet have pandemic potential," the researchers wrote in their study, which was published on July 5 in the medical journal The Lancet. "We recommend enhanced surveillance, active contact tracing, and vigorous searches for the MERS-CoV animal hosts and transmission routes to human beings." WHO Director-General Margaret Chan sounded the alarm over the virus during her closing remarks at the 66th World Health Assembly in late May, warning that the virus `poses a threat to the entire world` and urging the international community to come together to combat the threat. "The novel coronavirus is not a problem that any single affected country can keep to itself or manage all by itself. The novel coronavirus is a threat to the entire world," Chan said. "Through WHO and the IHR, we need to bring together the assets of the entire world in order to adequately address this threat. We need more information, and we need it quickly, urgently."

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