

Study finds Zika virus in fetal brain, a clue in outbreak

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CDC Director Tom Frieden testifies on Capitol Hill in Washington, Wednesday, Feb. 10, 2016, before the House Foreign Affairs, Africa, Global Health, Global Human Rights, and International Organizations subcommittee and Western Hemisphere subcommittee hearing on: 'The Global Zika Epidemic.' (AP Photo/Susan Walsh)

New details about the possible effects of the Zika virus on the fetal brain emerged Wednesday as U.S. health officials say mosquito eradication here and abroad is key to protect pregnant women until they can develop

a vaccine.

European researchers uncovered an extremely abnormal brain—not only a fraction of the proper size but lacking the usual crinkly neural folds—in a fetus whose mother suffered Zika symptoms at the end of the first trimester while she was living in Brazil.

Zika is rapidly spreading through Latin America, and as it did, Brazil reported a surge in babies born with unusually small heads, a defect called microcephaly that can signal underlying brain damage.

Whether the mosquito-borne virus really causes microcephaly isn't yet proven, but Wednesday's report in *The New England Journal of Medicine* offers additional biologic clues.

"This fetus was really devastated," said Dr. Michael Greene of Massachusetts General Hospital who with colleagues from Harvard reviewed the findings in an accompanying editorial.

Second-trimester ultrasounds in Brazil didn't spot any problems but a third-trimester scan when the woman returned to Europe did. A post-abortion autopsy found the Zika virus in the fetus' brain but, remarkably, no other organs, reported researchers from the University of Ljubljana in Slovenia. They also genetically sequenced the virus, which could help further research into the suspected link.



NIH National Institute of Allergy and Infectious Diseases Director Anthony Fauci testifies on Capitol Hill in Washington, Wednesday, Feb. 10, 2016, before the House Foreign Affairs, Africa, Global Health, Global Human Rights, and International Organizations subcommittee and Western Hemisphere subcommittee hearing on: 'The Global Zika Epidemic.' (AP Photo/Susan Walsh)

Last month, the U.S. Centers for Disease Control and Prevention announced finding Zika genetic material in brain tissue from two Brazilian babies who'd died, and in the placentas from two miscarriages.

Together, the findings offer important evidence but still, "there are more questions than there are answers at the moment," Greene said.

Also Wednesday, leading scientific journals pledged to rapidly share data to try to get those answers.

The Obama administration has asked Congress for \$1.8 billion in

emergency funding to fight Zika. The biggest U.S. message is for [pregnant women](#) to avoid traveling to Zika-affected areas.

But CDC Director Dr. Tom Frieden told a congressional committee on Wednesday that much of the effort must be on mosquito control, too, including in southern parts of the U.S. that harbor the mosquito that spreads the virus. Officials don't expect large outbreaks in the continental U.S., but have warned that there could be limited local transmission, small clusters, in those areas, like there have been of related viruses carried by the same mosquito, the dengue and chikungunya viruses.

However, Frieden warned that "we will likely see significant numbers of cases in Puerto Rico," based on how quickly chikungunya spread through that territory in 2014.

To protect women of child-bearing age in Zika-stricken countries, a vaccine will be important because the [virus](#) "is a flash infection," disappearing from the mother's bloodstream in days, said Dr. Anthony Fauci of the National Institutes of Health. That means other ways of fighting maternal transmission likely wouldn't work.

He hopes small safety studies of an experimental vaccine might begin late this year, but said how long it would take to prove a candidate shot really worked depends in part on whether the Zika outbreak is still going on next year or burns itself out.

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