Mice research brings male contraceptive pill closer

December 3 2013

A contraceptive pill for men has moved one step closer after Australian researchers successfully made male mice infertile, according to a study

A contraceptive pill for men has moved one step closer after Australian researchers successfully made male mice infertile, according to a study published Tuesday.

Monash University scientists genetically modified mice to block two proteins found on the smooth muscle cells which are essential for sperm

to travel through the animal's reproductive organs.

The result was that even though the mice had sex normally and were otherwise healthy, they were infertile, researcher Sabatino Ventura from Melbourne's Monash University said.

"We've shown that simultaneously disrupting the two proteins that control the transport of sperm during ejaculation causes complete male infertility," Ventura said.

"But without affecting the long-term viability of sperm or the sexual or general health of males. The sperm is effectively there, but the muscle is just not receiving the chemical message to move it."

Ventura, who collaborated with researchers from the University of Melbourne and Britain's University of Leicester on the study, now wants to replicate the genetic process chemically, and believes a male contraceptive pill could be possible in about 10 years.

"The next step is to look at developing an oral male contraceptive drug, which is effective, safe, and readily reversible," he said.

The findings, published in the US journal *Proceedings of the National Academy of Science*, show that the absence of two proteins in mice caused infertility, without affecting the long-term viability of the sperm, sexual behaviour, or the health of the animals.

Previous attempts to develop a male contraceptive pill have focused on hormones or producing dysfunctional sperm—methods which can interfere with male sexual activity and cause long-term and potentially irreversible effects on fertility.

Ventura said because his approach was non-hormonal and did not impact

on the development of sperm, a drug which switched off the two proteins should not have any long-term side effects and could be reversed once the man stopped taking it.

"It would block the transport of sperm and then if you're a young guy and you get to the stage where you wanted to start fathering children, you stop taking it and everything should be okay," he told broadcaster ABC.

"It would be like an oral medication probably taken daily just like the female contraceptive pill."

More information: "Male contraception via simultaneous knockout of α1A-adrenoceptors and P2X1-purinoceptors in mice," by Carl W. White et al. www.pnas.org/cgi/doi/10.1073/pnas.1318624110

© 2013 AFP

Citation: Mice research brings male contraceptive pill closer (2013, December 3) retrieved 20 March 2024 from https://medicalxpress.com/news/2013-12-mice-male-contraceptive-pill-closer.html

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.