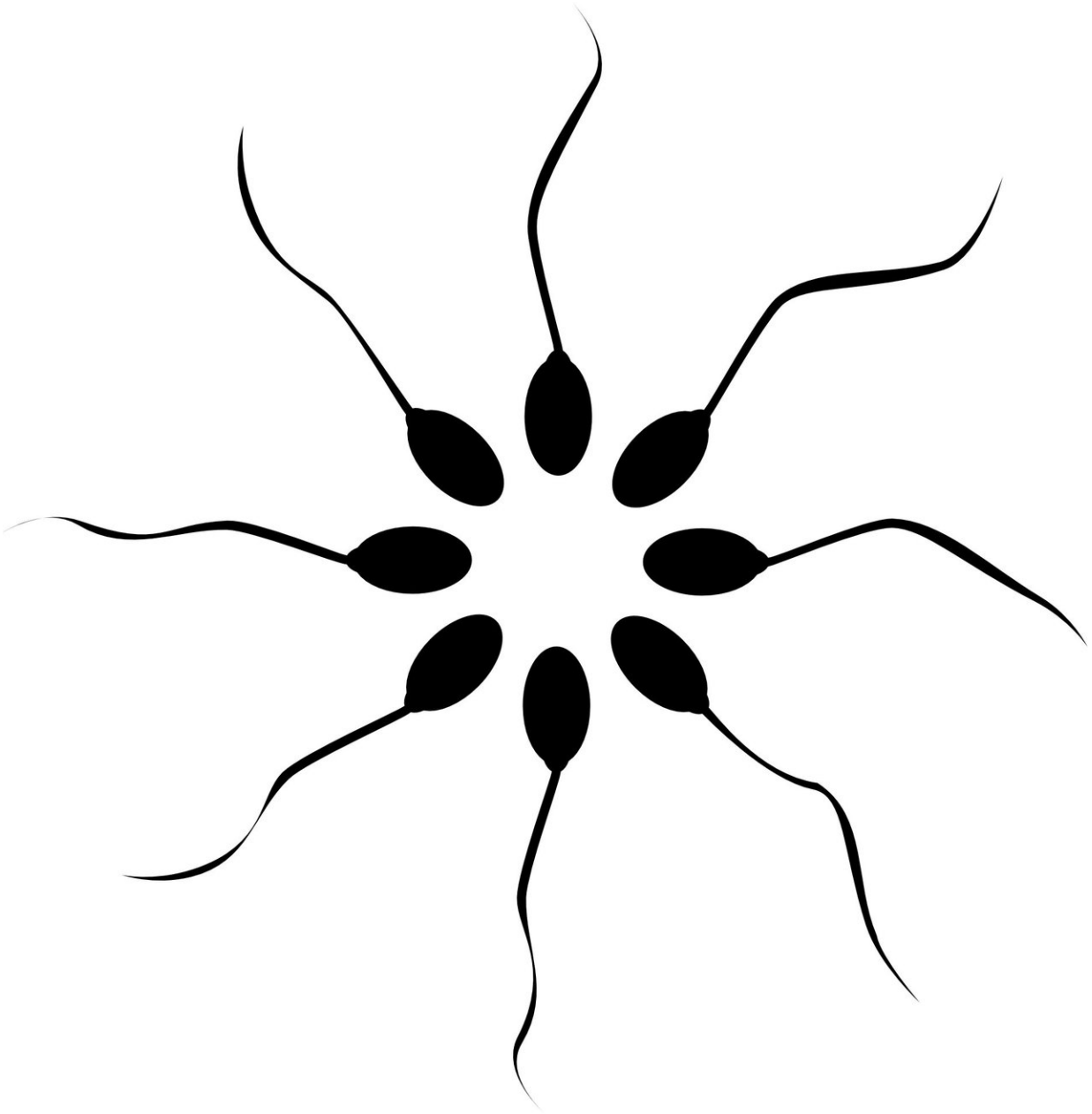


Sperm DNA damage may contribute to repeat miscarriages

March 23 2019



Credit: CC0 Public Domain

Some cases of recurrent pregnancy loss may be caused by sperm DNA damage in the male partner, rather than by a problem in affected women, according to research to be presented Sunday, March 24 at ENDO 2019, the Endocrine Society's annual meeting in New Orleans, La.

Between 1 and 2 percent of couples have recurrent pregnancy loss (RPL), defined as the consecutive loss of three or more pregnancies before 20 weeks gestation. "Affected women undergo many tests to determine the cause, but many cases have no identified cause," said lead researcher Channa Jayasena, M.D., Ph.D., of Imperial College London in London, U.K. Male partners of women with RPL do not routinely undergo assessment to see if they play a role. "However, we know that [sperm](#) play an important role in the formation of the placenta, which is critical for survival of an unborn baby," Jayasena said.

The study was designed to assess whether male partners of women with RPL may have an increased risk of sperm DNA damage, which is known to impair fertility. The researchers compared 50 healthy men whose partners had not experienced miscarriages with 63 men whose partners were affected by RPL. They measured levels of sex hormones such as testosterone, the number and behavior of sperm using a microscope, and further molecular tests. They also measured the level of damage to sperm DNA, and level of a chemical entity called reactive oxygen species, which can damage cells such as sperm in the semen of men.

They found that men affected by RPL had twice as much sperm DNA damage compared with the unaffected men. Men whose partners had

suffered miscarriage also had a four-fold increase in the amount of [reactive oxygen species](#) compared with unaffected men.

"Our study suggests that it may be useful to investigate if male partners of [women](#) with RPL have abnormalities in their reproductive function," Jayasena said. "It also opens up a new potential '[drug target](#)'; it may be possible to design future drugs to stop sperm DNA damage to treat couples with RPL and reduce the risk of miscarriage."

Provided by The Endocrine Society

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