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By: Gabriel Gache, Science News Editor

AGE compounds produced in men suffering from diabetes may be responsible for sperm DNA damage
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Male Infertility Linked to Diabetes

Diabetes could explain the increasing number of infertile men

According to the European Society of Human Reproduction and Embryology the increase in the number of men suffering from infertility could be directly linked to the increasing number of men suffering from diabetes. Apparently, the DNA damage in sperm cells of men with diabetes is harder to repair by specialized genes, which are less active than in the case of healthy individuals, although sperm cells seem to be perfectly healthy when viewed under the microscope."We have shown that diabetes influences male reproductive function in subtle, previously undetected ways," says Con Mallidis of Queen's University, leader of the study. In a previous investigation regarding the overall health of diabetic men, the team found that their sperm cells are very likely to present DNA damage.By extending the results of their previous study, Queen's researchers discovered that the genes of diabetic men have suffered changes that disable their ability of repairing DNA damage. Additionally, Allan Pacey of the University of Sheffield believes that the same process might be responsible for certain disruptions in the sperm production, meaning children fathered by men suffering from diabetes are more prone to diseases due to DNA damage."Few clinics even bother to record the diabetic status of the male partner in a couple seeking assistance for infertility," said Mallidis, referring to the fact that a visual examination cannot establish whether or not the sperm cells have suffered DNA damage.So far, the process through which these genes are altered hasn't been identified, but it could have something to do with a series of compounds known as advanced glycation end products, which occur in high levels in the reproductive tracts of men with diabetes. Other compounds such as ornithine decarboxylase, responsible with the production of spermidine and spermine, have been reported to drop by up to 14 times in men with diabetes as compared to healthy ones."What we have is a body, a bullet and a smoking gun. Whether one is the result of the other? The jury is still out," concluded Mallidis.