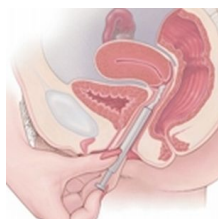


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By: Stefan Anitei, Science Editor



Two New Very Effective Sperm Killers

Plus, they are not irritant

Spermicides are chemicals that kill sperm cells, and are used as a contraceptive method. They are inserted vaginally prior to intercourse, but employed alone, this method has a low efficiency (18 % annual failure). They are usually combined with other contraceptive methods like diaphragms, condoms or cervical caps. Nonoxynol-9 (N9) is the most common active compound of spermicides, found under various forms as gel, films, creams and foams. It's sometimes used to lubricate condoms. This molecule is in fact a detergent that kills almost all living cells by breaking down the fat from the cell membranes, exactly how household detergents function to dissolve the grease. It may kill sperm cells, but it also destroys many of the normal vaginal bacteria species that help maintain a normal vaginal environment, impeding infections in the urogenital tract by pathogen bacteria and fungi. Cells in the cervix and vaginal mucosa can also be irritated by N9 in some women, and these females can be yet more vulnerable to sexually transmitted germs like HIV and gonorrhoea bacterium. Other less effective and secure chemicals like octoxynol-9, menfegol, benzalkonium chloride and sodium cholate are employed in some contraceptive sponges and suppositories. Now two new molecules were found to be 25 times more effective as sperm killers than nonoxynol-9, without irritating vaginal cells. The research team led by Gopal Gupta at the Central Drug Research Institute in Lucknow, India, has made two molecules that attack only sperm cells by attaching to molecules on the sperm membranes, determining the programmed cell death. "Our molecules don't rip open the membrane to exert their action," says Gupta. In trials on human sperm, the spermicides killed 100 % of the sperm at just 4 % of the concentration required by N9 for the same effects. These two chemicals were found also to be harmless to human cervical cells and bacteria commonly found in the vaginal flora.