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******Vasectomies are popular, still some
questions remain.*

Vasectomy, the male sterilization operation, is increasing in popularity. But nagging doubts about its potential long-term side effects remain.

American men appear to be more willing to share the burden of contraception with women--perhaps because of widespread publicity warning of the potential dangers to women of birth control pills and intrauterine devices (IUDs), and perhaps because of the changing relationship between the sexes that has resulted from the women's liberation movement.

Whatever the reason, an estimated one million American males had vasectomies in 1975.

A vasectomy involves cutting and tying the tubes through which sperm pass from the testes to the urinary tract. It is a simple procedure that may be performed under local anesthesia in the office. It does not alter sexual potency. After the operation, sperm continue to be produced and are either resorbed or accumulate in the tied-off tubules, which become enlarged to accomodate the sperm.

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first add vasectomies

But medical researchers have yet to prove that there aren't any long-term side effects in the human male.

"The possibility that vasectomy causes subtle or gradual degenerative changes has not been eliminated," says Dr. William Neaves, associate professor of cell biology and chairman of the anatomy division at The University of Texas Southwestern Medical School at Dallas.

"The remarkable thing about vasectomy is that it became one of the more common elective surgical procedures before a basis was established with experimental animals," he continues. "At this point, animal studies have contributed such conflicting evidence that concern still exists regarding the safety of vasectomy."

Dr. Neaves, under a Ford Foundation grant, is studying the nature and significance of the immune response in vasectomy.

"There is no clinical evidence of any readily observable side effects," Dr. Neaves says, "but there is a theoretical basis" for what some investigators have said is an association between vasectomy and certain "autoimmune" diseases.

An autoimmune disease is one in which an individual's immune system reacts against a part of his own body. In vasectomy, the retention of large numbers of sperm provokes an autoimmune response against the sperm in about half of vasectomized men. (Sperm are recognized by the immune system as a "foreign" substance because they do not appear until after puberty, long after the body's immune system has learned to distinguish its own tissues.) Studies in some laboratory animals have shown that an autoimmune response against sperm can also result in an attack on sperm-producing cells in the testes.

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As yet, there is no evidence that vasectomized men with immunity against their sperm go on to develop autoimmune disease of the testes, Dr. Neaves says.

In spite of this, a number of medical researchers continue to speculate that the autoimmune response against sperm may be related to various unexplained systemic disorders, for example, thrombo phlebitis, prolonged fever, skin eruptions, generalized arthritis, weight loss and hormonal dysfunction, as well as others.

Dr. Neaves is currently using both laboratory rats and guinea pigs in his research. He explains that different species of animals seem to react differently to vasectomy.

"I am convinced that vasectomy poses no threat to the testes in rats," he says.

But his and others' research indicates that guinea pigs are susceptible to degeneration of the testes after vasectomy. The guinea pig's immune system attacks the sperm-producing cells in the testes.

"Our immediate objective is to discover why rats are resistant to testicular autoimmune disease after vasectomy and why guinea pigs are not," Dr. Neaves says. "This knowledge will strengthen our ability to predict the consequences of vasectomy in humans.

"The guinea pig traditionally has been considered a better model of human immune responses than rats," he adds. "So there is reason to suspect that the testes of vasectomized men may undergo a very mild autoimmune attack. Such an attack could produce negligible symptoms, and indeed, might even be beneficial in the long run by reducing the accumulation of unwanted sperm."

third add vasectomies

On the other hand, some medical scientists still warn that it could predispose the individual to more generalized autoimmune disease by sensitizing his immune system to attack other of his own cells.

Further research is required to settle this question.

"In the meantime, it is reassuring that no significant side effects of human vasectomy have been demonstrated, though many millions of operations have now been performed."

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