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DALLAS--The act of mating increases release of a hormone which causes ovulation in rats, a Dallas medical school researcher reported at the Federation of American Societies for Experimental Biology today (Tuesday, April 17).

Dr. Robert L. Moss of The University of Texas Southwestern Medical School said, "While comparisons between rats and humans are extremely risky, such evidence suggests a possible explanation for the occurrence of ovulation throughout the menstrual cycle in some humans and might account for failures of the rhythm method."

Like women, rats ovulate spontaneously in a cycle triggered by the release of master hormones from the pituitary gland--luteinizing and follicle-stimulating hormones. What Moss and co-worker Keith Cooper observed was a second, somewhat independent release of those hormones (called gonadotropins) after coitus.

Dr. Samuel McCann, chairman of the Department of Physiology at Southwestern, observes: "It could explain why some kids who never had a period show up pregnant at Parkland Hospital." The researchers noted that other scientists have observed ovulation following sexual assaults on women.

Drs. McCann and Moss agree that the coitus-induced release of luteinizing hormone may be a back-up system to insure fertility should the normal estrus cycle fail.

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first add ovulation

"In the wild or in colony, as the female rat gets older, the spontaneous release of hormones becomes irregular and a coitus-induced release mechanism may become more important in the prolongation of the animal's reproductive life," Dr. Moss explained.

While cautioning that rat-to-human comparisons are extremely dangerous, Dr. Moss would speculate that the rhythm method for birth control, being based on a so-called "safe period," might be inadequate because of alterations in the timing sequence caused by sudden release of coitus-stimulated hormones.

The neuroendocrinologist used a sensitive new method to measure the rise of gonadotropins in plasma following copulation.

Moss and Cooper noted a significantly higher release of luteinizing hormone in those animals showing the most intense mating responses.

They also observed that when rats were mated during the time that the hormone levels were dropping from peaks induced by purely spontaneous mechanisms, mating would stop the decline and build up the concentration again.

The Southwestern Medical School researchers have no present plans for human experiments.

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