

Hormonal treatment associated with better test performance after stroke

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Stroke patients treated who received hormonal treatment, combined with rehabilitation, performed better on functioning and reasoning tests than patients who received rehabilitative therapy alone, a new clinical study from Italy shows. The results to be presented at The Endocrine Society's 94th Annual Meeting in Houston.

In the United States, stroke is the fourth-leading cause of death. The disease occurs when a blood vessel to the brain either ruptures ([hemorrhagic stroke](#)), or is obstructed by a clot during an [ischemic stroke](#), which is the most common type. Inadequate blood flow prevents oxygen from reaching [parts of the brain](#), which can lead to [tissue death](#) and serious long-term disability.

The hormone, relaxin, or RLX, is a naturally occurring protein produced by the [reproductive organs](#) in men and women, although only women have circulating hormone in the blood, both during ovulation and pregnancy. For years after its discovery in 1926 by the renowned zoologist and reproductive endocrinologist Frederick Hisaw, the hormone's primary role was thought to be that of relaxing the uterus and pelvis for childbirth.

More recently, however, research from this study's investigators, as well as others, has demonstrated that the hormone also helps many different organs and bodily processes prepare for pregnancy. These include the heart and blood vessels, or cardiovascular system; lungs; kidneys; [mammary glands](#); as well as the immune system.

"Considering the present clinical results and our previous experimental studies, we believe that RLX is a very important, if not the most important, cardiovascular hormone," said study author Mario Bigazzi, M.D. an internist at Prosperius Institute, in Florence, Italy. "We believe that the presence of relaxin in women's blood at each ovulation represents the still-undiscovered factor protecting them from cardiovascular diseases during the fertile span of life until the menopause. This may assure their well-known longer survival time than men."

Twenty days after beginning treatment, patients who received relaxin performed comparably to non-recipients on a test measuring daily-task ability. On a similar test 40 days after initial treatment, however, relaxin patients performed better than their non-relaxin counterparts. Both groups also received rehabilitative therapy.

Similarly, relaxin recipients scored higher than other patients on tests of reasoning and overall functioning, both at 20 and 40 days after starting treatment. No side effects associated with relaxin were reported during the study.

According to Bigazzi, these results demonstrate relaxin's tremendous promise to treat, and even prevent, heart and blood-vessel diseases, including stroke. "We anticipate that, in the near future RLX, will represent an essential tool in the therapy and primary and secondary prevention of ischemic cardiovascular disease," he said.

Thirty-six patients who had suffered a [stroke](#) participated in the study. Patients ranged in age from 64 to 79 years, and 53 percent were male.

Each participant was randomly assigned to receive daily treatment with oral relaxin, combined with physical rehabilitation, or physical rehabilitation alone. Investigators then used standardized tests to

determine patients' functioning in three domains, including daily activity, reasoning, and overall functioning. These assessments occurred on the first day of the study, then again at 20 and 40 days.

Provided by The Endocrine Society

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