The doping-drug Epo has an impact in the brain

June 11 2012

Sportsmen and women dope with the blood hormone Epo to enhance their performance. Researchers from the University of Zurich now discovered by animal testing that Epo has a performance-enhancing effect in the brain shortly after injection and not only after days by improving oxygen transport in blood. As Epo also increases motivation, it could be useful in treating depression.

The well-known blood hormone Epo is not only used for medicinal purposes; some athletes misuse it for doping. It boosts the number of red blood cells, thereby increasing the transport of oxygen to the muscles. This leads to improvements in performance, which can especially give endurance athletes such as cyclists or marathon runners the edge.

Epo has immediate impact on exercise performance

In a recently published study, Max Gassmann, a veterinary physiologist from the University of Zurich, proved that Epo also drastically increases motivation in the brain as soon as it has been injected, without the number of red blood cells increasing.

Gassmann's team tested exercise performance of differently treated mice, studying genetically modified mice that produce human Epo solely in the brain and mice that the researchers had injected with Epo and the hormone reached the brain thus by blood. Both mouse groups exhibited an increased performance on the treadmill compared to the untreated

control animals. "We assume that Epo in the brain triggers a motivation boost to increase physical performance," explains Professor Gassmann. He and his team are now testing the performance-enhancing effect of Epo on volunteers.

Epo probably has an impact on people's moods, too. It might thus be used in patients who suffer from depression. The latest experiments conducted by a German-Danish research group reveal that Epo can also alleviate the condition of patients suffering from schizophrenia by improving their mental performance.

Provided by University of Zurich