

New study may explain Vioxx side-effects

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Vioxx and related pain medications were taken off the market in 2004 because they caused dangerous heart problems in some people. A group of scientists, led by Timothy Hla at the University of Connecticut, may now have figured out how these drugs trigger these life-threatening side-effects. The new study will be published online in the *The Journal of Experimental Medicine* on August 27.

The target of these drugs is an enzyme called COX-2, which is produced in response to infection or injury and releases pain- and fever-inducing byproducts. Thus blocking COX-2 reduces pain. But blocking Cox-2 in mice, according to the new study, also stimulated the production of a protein called tissue factor, or TF, which initiates blood clotting. As heart attacks and strokes are often triggered by blood clots, it is possible that the production of TF is in part responsible for the drug's adverse side-effects in humans.

In the drug-treated mice, the high levels of TF in the blood were countered by administering TF-reducing drugs. Thus it is theoretically possible to treat people safely with Vioxx and other Cox-2 inhibitors if existing TF-blocking drugs are given simultaneously.

Source: Journal of Experimental Medicine

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