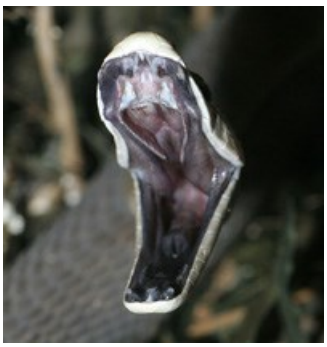
Mamba venom holds promise for pain relief

PARIS, FRANCE: Scientists have used the venom of Africa's lethal black mamba to produce a surprising outcome in mice which they hope to replicate in humans, effective pain relief without toxic side effects.



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French researchers wrote in the journal *Nature* on Wednesday, 3 October 2012, that peptides isolated from black mamba venom may be a safer pain killer than morphine. In mice at least, the peptides bypass the receptors in the brain that are targeted by morphine and other opioid compounds which sometimes cause side-effects like breathing difficulties or nausea.

Nor do the peptides pose the same risk of addiction or drug abuse. "We have identified new natural peptides, mambalgins, from the venom of the snake Black Mamba that are able to significantly reduce pain in mice without toxic effect," study co-author Anne Baron of France's Centre national de la recherche scientifique (national research institute) told *AFP*.

"It is remarkable that this was made possible from the deadly venom of one of the most venomous snakes," she said of the study published in the journal *Nature*.

"(It) is surprising that mambalgins, which represent less than 0.5% of the total venom protein content, has analgesic (pain-relief) properties without neurotoxicity in mice, whereas the total venom of black mamba is lethal and among the most neurotoxic ones."

Morphine is often regarded as the best drug to relieve severe pain and suffering, but it has several side effects and can be habit-forming. The black mamba's venom is among the fastest acting of any snake species, and a bite will be fatal if not treated with antivenom, the poison attacking the central nervous system and causing respiratory paralysis.

Mice are among the agile adder's favourite prey in the wild in eastern and southern Africa. Baron said researchers were

confident the peptides would also work in humans "and are very interesting candidates as painkillers", but much work remains to be done.

A patent has been issued and a pharmaceutical company is examining the possibilities, she said.

Source: *AFP*