

Warning over codeine use after tonsillectomy

August 19 2009

A report out of The University of Western Ontario, published in the *New England Journal of Medicine*, warns the use of codeine to treat pain following a tonsillectomy could prove fatal for some children. Dr. Gideon Koren, who holds the Ivey Chair in Molecular Toxicology at Western, zeroed in on the danger after investigating the death of a two year old boy following a relatively easy operation to remove his tonsils.

Koren is a pediatrics professor at both Western and the University of Toronto, and the Director of the Motherisk program at the Hospital for Sick Children in Toronto. Enlarged tonsils are usually treated with antibiotics, but Koren says tonsillectomies are still performed in the case of [sleep apnea](#), where the child stops breathing while asleep.

In this particular case, the toddler had a history of snoring and sleep-study-confirmed sleep apnea. He was taken to an outpatient clinic, had the operation, and was taken home. The mother was given syrup of [codeine](#) and instructed how to administer it to her child for pain relief. On the second night after surgery, the child developed a fever and wheezing, and was found dead the next morning. Tests later showed the mother had given the proper dosage, and yet the child's body was found to have high levels of [morphine](#). The coroner asked Koren to look at the case.

"The sudden death of a healthy child was quite sobering because tonsillectomies are done every day, all over North America," says Koren. "And more and more of them are done on an outpatient basis, with the child going home the same day." The child was found to have the ultra-

rapid metabolism genotype which causes the body to metabolize codeine at a faster rate, producing significantly higher amounts of morphine.

Last year Koren published research showing how mothers who are given codeine for pain following childbirth, can pass toxic levels of morphine to their babies through their breastmilk, if they carry this genotype. It's estimated just over one per-cent of Caucasians carry this gene, but the incidence could be as high as 30% in those of African origin.

Koren has another concern about giving codeine to children following a tonsillectomy for sleep apnea. "If the apnea doesn't go away, codeine will also suppress the child's breathing. This demonstrates the need to keep children in hospital under surveillance for at least 24 hours to see if the apnea persists."

Western graduate student Catherine Ciszkowski co-authored the paper with Koren. The Ivey Chair in Molecular Toxicology studies why drugs can be safe for most people, and yet life-threatening to some, and tries to find ways to predict those situations.

Source: University of Western Ontario

Citation: Warning over codeine use after tonsillectomy (2009, August 19) retrieved 24 April 2024 from <https://medicalxpress.com/news/2009-08-codeine-tonsillectomy.html>

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