

New method identifies rat poison in humans

May 27 2008

Researchers at the Norwegian Institute of Public Health (NIPH) have developed a method to identify bromadiolone poisoning in humans. Bromadiolone is a rat poison that can be purchased freely in shops. A number of cases have been reported internationally where people have been poisoned, with a mortality rate of 20 percent.

Blood-thinning substances have been used for many years as rodenticides. Warfarin was previously used but due to resistance development, the so-called super-warfarins were introduced. These substances are 100 times as potent as warfarin.

A commonly used super-warfarin is bromadiolone (sold as the brand name Temus in Norway). Few laboratories have been able to prove the presence of bromadiolone in human samples and little is known what happens to the substance in the human body.

Now researchers at the NIPH have developed an analysis method to spot the presence of bromadiolone. The cause of serious bleeding disturbances in a female patient was investigated during a recent poisoning case. It appeared that the woman had been exposed to blood-thinning substances. Blood samples uncovered that she had been repeatedly exposed to bromadiolone.

The researchers discovered that bromadiolone is present in blood for a much shorter time than expected. The concentration of bromadiolone is higher in blood plasma than in whole blood, which is important to note when samples in different media are interpreted. After storage of the

blood samples in the freezer at -20 degrees Celsius, followed by thawing for reanalysis, the concentration of bromadiolone fell over time.

In order to treat bleeding disorders, the cause of the patient's condition must be identified as soon as possible. When poisoning with blood-thinning substances is suspected, an analysis method that can identify the superwarfarin bromadiolone, plus other superwarfarins and blood-thinning substances, is now available.

Source: Norwegian Institute of Public Health

Citation: New method identifies rat poison in humans (2008, May 27) retrieved 24 May 2024 from <https://medicalxpress.com/news/2008-05-method-rat-poison-humans.html>

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