

Evaluasi efek toksik dan analisis kadar urin tetrahidrozolin hidroklorida dalam berbagai matriks minuman pada tikus = Toxic effects evaluation and urine level analysis of tetrahydrozoline hydrochloride from various beverage matrixs in rats.

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Abstrak

Tetes mata yang mengandung tetrahidrozolin hidroklorida 0,05% akhir-akhir ini digunakan sebagai obat perantara dalam tindakan kriminal dengan cara dicampurkan ke dalam minuman yang diberikan kepada korban. Laporan kasus menyebabkan korban mengalami pusing, lemas, depresi pernafasan, hipotensi dan kehilangan kesadaran. Penelitian ini bertujuan mengevaluasi efek toksik 1 botol tetes mata dengan mencampurkan ke dalam beberapa minuman yang diberikan per oral pada tikus dan menganalisis kadar tetrahidrozolin dalam urin. Tikus dibagi menjadi 7 kelompok dengan perlakuan antara lain kelompok normal (air 3 ml); THZ: tetrahidrozolin hidroklorida (0,675 mg/200g bb); THZ + ID (tetrahidrozolin hidroklorida 0,675 mg/200g bb + idazoxan 7,2 mg/200g bb); IN: Insto® 0,675 mg/200g bb; IN + SP: Insto® 0,675 mg/200g + Sprite® 3 mL; IN + TH: Insto® 0,675 mg/200g + Teh Pucuk Harum® 3 mL; IN + AL: Insto® 0,675 mg/200g + Bir Bintang® 3 mL. Hewan uji dipuasakan semalaman, parameter kesadaran (pinna reflex, eye twitch, auditory startle dan righting reflex), laju nafas, suhu, dan tekanan darah diukur sebelum dan sesudah pemberian zat uji, volume urin ditampung selama 4 jam pengamatan, dan kadar tetrahidrozolin dianalisis pada urin jam ke-1 dan ke-2. Hasil penelitian menunjukkan terdapat efek penurunan laju nafas dan tekanan darah, pelarut minuman soda, teh dan alkohol memberikan pengaruh potensiasi yang signifikan terhadap efek tersebut. Pelarut minuman berpengaruh pada volume dan kadar tetrahidrozolin hidroklorida dalam urin.

.....Recently, eye drops containing tetrahydrozoline hydrochloride have been used in drug facilitated crime by mixing it into beverages given to victims. Numbers of case reports showed effects to the victims are dizziness, weakness, respiratory depression, hypotension and loss of consciousness. This study aimed to evaluate the toxic effects of 1 bottle of eye drops by mixing it with several drinks given orally to rats and to analyze the levels of tetrahydrozoline in urine. Rats were divided into 7 groups as follow as; the normal group (3 ml water); THZ: tetrahydrozoline hydrochloride (0.675 mg/200g bb); THZ + ID (tetrahydrozoline hydrochloride 0.675 mg/200g bb + idazoxan 7.2 mg/200g bb); IN: Insto® 0.675 mg/200g bb; IN + SP: Insto® 0.675 mg/200g + Sprite® 3 mL; IN + TH: Insto® 0.675 mg/200g + 3 mL Teh Pucuk Harum®; IN + AL: Insto® 0.675 mg/200g + Bir Bintang® 3 mL. The animals were fasted overnight, the parameters of consciousness (pinna reflex, eye twitch, auditory startle and righting reflex), respiratory rate, temperature, and blood pressure were measured before and after administration of the test substance, urine volume collected for 4 hours of observation, and tetrahydrozoline levels were analyzed at 1st and 2nd hour. The results showed that respiratory rate and blood pressure decreased significantly, the beverages showed significant potentiating effect. Beverages affected the volume and levels of tetrahydrozoline hydrochloride in urine.