THE COLOR AND LABELLING OF RIVASTIGMINE TRANSDERMAL PATCHES PREDISPOSE DEMENTIA PATIENTS TO ACCIDENTAL RIVASTIGMINE POISONING

ML Tse; VCH Ng;JSK Au-Yeung

[1] *Hong Kong Poison Information Centre, Hong Kong*

[2] *Chief Pharmacist's Office, Hospital Authority*

Objectives: To study the clinical presentations and cause of rivastigmine poisoning resulting from accidental exposure of multiple rivastigmine transdermal patches.

Methods: This is a retrospective review on rivastigmine poisoning due to accidental exposure of multiple rivastigmine transdermal patches. All poisoning cases either consulted or reported to the Hong Kong Poison Information Centre (HKPIC) from 1st July, 2008 to 30th June, 2015 were included.

Results: Five cases were identified; including 2 males and 3 females; ages ranged from 54-88 years old. All patients had history of dementia. The number of transdermal patches involved ranged from 5 to 10 with the mean of 7.2. The patches were found on upper limbs (shoulder, forearm and hand dorsum), lower limbs (hip, leg and foot dorsum) and back region. The patients presented with nausea (n=5), vomiting (n=5), weakness (n=2), bradycardia (n=2), dizziness (n=2), sweating (n=2), diarrhea (n=2) and confusion (n=1). Plasma cholinesterase levels checked in 4 patients were low, ranged from 500 U/L to 3,226 U/L. The patches were either self-applied (n=3), or mistakenly applied by care taker (n=2). Reason for multiple patches used included misinterpretation of instruction (n=1), forgotten to remove patches after 24 hours (n=2), misuse as analgesic patches (n=1), and mistakenly given by carer (n=1). Upon examination, all patches were removed immediately and patients were rehydrated with intravenous fluid. Atropine was given in 1 patient and they all recovered uneventfully.

Conclusions: Accidental overdose of rivastigmine patches may precipitate significant cholinergic and muscarinic toxicity. The risk is higher in dementia and elderly patients. Transdermal patch made in skin color may be overlooked by patient /carer if patient is not fully undressed. Failure in removing all patches in poisoning patient may lead to persistent rivastigmine toxicity. Physicians should be aware of possible multiple patches exposure in patients with cholinergic or muscarinic toxidrome and history of rivastigmine patch use. Detailed drug history and physical examination is the key in patient management. It is suggested that drug manufacturer should make the patch in easily identifiable color and clearer instruction to minimize the risk of accidental overdose.