CHAPTER 21

Tricyclic Antidepressant Intoxication and Cardiovascular Effects

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INTRODUCTION

While tricyclic antidepressants (TCA) have been used as first-line drugs in the treatment of depression until recently, their use has decreased relatively with the development of selective serotonin reuptake inhibitors and other new generation agents (1). Although the frequency of use has decreased, it is still used in the treatment of depression and other indications such as migraine, fibromyalgia and chronic pain syndromes treatment (2).

1. Pharmacokinetics, clinical features and complications of TCAs

The mechanism of action of TCAs is basically inhibition of presynaptic norepinephrine and serotonin reuptake. TCAs are rapidly absorbed from the gastrointestinal tract and are highly protein-bound and have a high volume of distribution. Plasma half-life of elimination generally exceeds 24 hours and in the case of amitriptyline is up to 46 hours (3).

TCA overdose is one of the drug intoxications that frequently cause emergency department admissions (4). In children, exposure is higher as the plasma level required for intoxication can be reached with 1-2 pills. Symptoms generally begin 2 hours after taking the drug. It reaches its peak plasma level within 2-12 hours. TCA intoxication mainly affects the cardiovascular system and the nervous system, and presenting complaints may include palpitation, chest pain, hypotension, dry mouth, dry skin, visual impairment, convulsions, and deterioration in mental status, respiratory depression, and coma. ADORA (Antide-

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