K28 Collaboration of Emergency Clinician and Forensic Toxicologist in a Suicide Case Related With Amitriptyline

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After attending this presentation, attendees will take into consideration a rapid analysis of amitriptyline from the gastric lavage by High Performance Thin Layer Chromatography (HPTLC) method and confirmed by Gas Chromatography Mass Spectrometer (GC-MS) method during the treatment of a suicide case.

This presentation will impact the forensic science community by highlighting the importance of collaboration between the emergency clinician and forensic toxicologist in a suicide case related with amitriptyline.

A 32-year-old “pharmacist man” was brought to Cerrahpasa Emergency Department by relatives after 3 h ingested 29 tablets of 25 mg Amitriptyline. On presentation, he was noted to have moderate anxiety and semi-cooperative. His vital signs included a temperature of 36.7°C, a blood pressure of 150/100 mm Hg, a pulse rate of 150 bpm, and a respiratory rate of 18 breaths/min. His oxygen saturation was 96% while breathing room air. 12-lead ECG: Sinus tachycardia. His lungs were clear to auscultation bilaterally. His cardiac examination revealed an regular, tachycardic rhythm. There was no discernible murmur. His abdomen was soft, nontender, and nondistended. On his neurologic examination, general depression of all neurologic functions, reduced muscle tone, and tendon reflexes were noted. His Glasgow Coma Score had fallen to 12/15. After the evaluation, 3000 cc serum physiologic was given via the nasogastric tube in 10 minutes. The analysis of the recovered gastric lavage was done and evaluated in Toxicology Laboratory of Istanbul University, Institute of Forensic Sciences. After gastric lavage, activated charcoal was given and $NaHCO_3$ was applied as antidote treatment. The patient was monitored to observe changes in cardiac rate and conduction and then because of alteration of consciousness and cardiac rhythm, he was admitted to Intensive Care Unit for supportive care.

In the toxicology section, the first washings of gastric lavage was extracted with ethyl acetate:heptane (1:1) in alkaline pH and the analyte was quantified by absorbance/reflectance densitometry using peak-area ratio analysis by HPTLC. Amitriptyline amount was found approximately 26.3 mg/L of gastric lavage sample. Parallel analysis with a GC-MS showed similar quantitative results. This study confirmed the retrospective data of the patient with high doses drug intake according to related articles.

In this case, results obtained by analyzing gastric lavage proved usefulness of the presented method, which represents an enough time to evaluate the epidemiology of the poisonings. Also comparative qualitative analysis between HPTLC and GCMS showed the capability of HPTLC in identifying qualitatively.

Amitriptyline, HPTLC, GC - MS

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