



The Survey of Urinary Thallium in The Patients Poisoned with Opioid-Like Compounds

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Background & Objective: Thallium (Tl) is a toxic heavy metal that exists in nature. Tl poisoning may occur in opioid addict cases. This study was designed to evaluate the frequency and level of urinary Tl in opioid abusers. In addition, clinical findings were evidenced.

Materials & Method: One-hundred and fifty subjects were examined. Cases with history of at least three years abuse were admitted in Imam-Reza hospital as the case group; 50 non-opioid abusers from the target population were included as the control group. Twenty-four hour urinary qualitative and quantitative Tl analysis was performed on both groups.

Result: For all subjects, 128 (85%) were negative for qualitative urinary Tl, followed by 5% (trace), 7% (1+), 2% (2+), and 1% (3+). Mean (SD, Min–Max) quantitative urinary Tl levels were 14 (44, 0–346 µg/L). Mean urinary Tl levels in the case group were 21 (53, 0–346) and in controls were 1 (1, 0–26), which were significantly different ($P = 0.001$). The most frequent clinical findings were ataxia (86%), sweating (81%), and constipation (54%). In all cases ($n=150$), mean (SD) with positive qualitative urinary Tl was 26.8 (12) and in negative cases was 2.3 (3.0), which were significantly different ($P = 0.002$).

Conclusion: This study showed that long-term opioid abuse might lead to Tl exposure. In opioid abusers with clinical manifestation of thallotoxicosis, urinary Tl should be determined.

Keywords: Thallium, opioid-like, poisoning, drug abuse