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An unusual case of self-injection of elemental mercury

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Background

Self-injections of elemental mercury are rare and have been mostly reported for suicidal attempts. However, there have been documented cases where people have injected mercury for other purposes, such as to improve physical strength or sexual performance. Treatment strategies are not clearly defined for such cases. In this case report, the patient's clinical manifestations after being exposed to intravenous mercury injection are presented, along with treatment strategies. To the best of the author's knowledge, there have been only a few reported cases in Thailand.

Case presentation

A 26-year-old-man with major depressive disorder self-harmed by injecting 0.3 ml of elemental mercury that he had collected from a broken thermometer 3 days prior. He experienced only mild gastrointestinal symptoms. X-ray revealed the presence of multiple small metal dense deposits throughout both lung fields and numerous metallic hyperdensities in the soft tissues surrounding the site of intravenous injection. No clinical evidence of embolism was observed. His blood mercury level was 92 mcg/L (reference level < 5 mcg/L) and 24-hour urine concentration was

37.87 mcg/L (reference level < 2 mcg/L). Both blood and urine samples were collected from the patient on the day of hospital admission. Although the patient's blood and urine mercury level were high, no significant clinical toxicity was observed. The patient underwent surgical removal, followed by chelation therapy using dimercaprol and d-penicillamine. The patient did not exhibit any abnormal signs or symptoms of mercury toxicity during the 3-month follow-up period. The blood mercury level and urine mercury concentration have decreased to 80.8 mcg/L and 259 mcg/g creatinine, respectively. The follow-up X-ray showed a decrease in multiple metallic hyperdensities in both lung fields.

Conclusions

The author recommends surgically removing metallic mercury from subcutaneous tissue to prevent further embolization or oxidation into mercuric form within the tissue. In our case, the patient's satisfactory clinical outcome is achieved by chelation therapy.