Acute Fondaparinux (Arixtra) Intentional Overdose via Self-injection: A Case Report

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BACKGROUND

Factor Xa inhibitors – antithrombin III inhibitor anticoagulants indicated for venous thrombosis and pulmonary embolism – are widely prescribed, and adverse hematologic effects have been described in this setting. However, there are no current reports of intentional fondaparinux poisoning by self-injection.

METHODS

A novel case of a patient suffering from fondaparinux overdose by self-injection with serum concentration is reported. A 49-year-old woman with a history of stiff person syndrome, recurrent pulmonary embolism, and depression prescribed fondaparinux presented to the ED after intentionally injecting herself with 13 syringes of her fondaparinux. She reported injecting them subcutaneously in her abdomen over the course of several minutes about 18 hours before coming to the ED. Each syringe contained 7.5 mg fondaparinux (total 97.5 mg). Her vital signs and laboratory testing were unremarkable (including routine toxicologic, renal, and coagulation studies).

RESULTS

The patient was admitted given no current recommendations regarding this poisoning and the potential for depot effect of large amounts of fondaparinux which could be absorbed. A serum anti-Xa fondaparinux concentration the day after admission measured >4.0 mg/L (therapeutic 0.50 mg/L). Physical exam showed multiple abdominal injection sites without excessive bleeding. She demonstrated no signs of bleeding in the hospital and was discharged to an inpatient psychiatric unit without sequelae on hospital day three.

DISCUSSION

There are currently no reported cases of intentional fondaparinux poisoning, and this patient had an uneventful course. Pharmacokinetics of the drug indicate rapid absorption after subcutaneous injection with peak concentrations within two hours. It is not metabolized and undergoes renal elimination unchanged. Large doses may have a depot effect with unknown toxicokinetics and potential for delayed complications.

CONCLUSION

Given the absence of consensus recommendations at this point, the authors recommend prolonged observation with intentional poisoning given the difficulty of hematologic monitoring, especially in those patients with abnormal renal function or evidence of bleeding.

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