

Managing life-threatening haematoperitoneum in a non-pregnant patient secondary to bromadiolone self-poisoning

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Aims

This case report aims to highlight how to manage bromadiolone (superwarfarin) self-poisoning holistically across three different specialties, ruling out gynaecological causes of haematoperitoneum, correction of the resulting coagulation disorder, and psychiatric input.

Methods

A 21-year-old female was admitted under gynaecology, tachycardic and with heavy vaginal bleeding with bruising and no history of trauma. Haemoglobin was 29 g/L, which is unusual in this age group. Ultrasound showed a significant amount of free fluid in her pelvis, suggestive of blood, and she underwent laparoscopy which showed a 300 mL haematoperitoneum and no other pathology. She was given a stat dose of GnRH (gonadotropin-releasing hormone) analogue to prevent further ovulation, and a Mirena system was fitted, as well as a course of medroxyprogesterone.

Initial blood results showed prolonged PT (prothrombin time) and APTT (activated partial thromboplastin time), and normal fibrinogen levels. A sample was sent for quantification of factors, which showed low factor II, VII, IX and X. During the course of her stay, she admitted to taking a staggered overdose of bromadiolone over three episodes in a 3–4-week period, with a total of 250g ingested. Liaison psychiatry were involved as she initially refused treatment, despite a risk of interventricular haemorrhage and was sectioned.

She was commenced on 20 mg vitamin K orally per day over a period of 6 months to 1 year, with INR monitoring every 2–3 days. After 22 days of inpatient treatment, her INR range was satisfactory for her to be discharged.

Results

Bromadiolone is a second-generation 4-hydroxycoumarin derivative. It inhibits vitamin K(1)-2, 3 epoxide reductase and therefore synthesis of vitamin K1 clotting factors – factors II,

VII, IX and X – as demonstrated in the patient's blood results. It binds to the enzyme with a greater affinity than warfarin and can disrupt the cycle at more than one point, and accumulates in the liver. It also has a longer half-life than warfarin, due to high lipid solubility and enterohepatic circulation, hence the prolonged course of vitamin K and projected duration of treatment.

Conclusions

There are not a lot of published data on elimination kinetics and half-life of bromadiolone in humans, therefore treatment is guided by coagulation profile; however, there are no treatment guidelines. The coagulopathy can take a long time to reverse, especially in the above case as there was staggered self-poisoning. Clotting disorders are a rare cause of heavy vaginal bleeding in a young population, but one which must be considered. ■

Conflict of interest statement

There are no conflicts of interest.

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