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Clinical Conundrum:
Using IV estrogen as adjunctive hemostatic therapy in a patient with acute, severe uterine hemorrhage and history of thromboembolic event or risk factors.

Background:
Hormonal management is considered the first line of medical therapy for patients with acute uterine hemorrhage without known or suspected bleeding disorders. However, across indications, it is **generally contraindicated in patients with a history of thromboembolic event or risk factors**. Little data exist regarding the use of IV estrogen in patients with acute severe uterine hemorrhage and pre-existing thromboembolic risk factors.

Findings:

1.) In non-pregnant hemodynamically unstable patients, intravenous (IV) or intramuscular (IM) conjugated estrogen 25 mg may be administered, with repeat doses in 4 to 6 hours as needed for hemorrhage control.

2.) In one randomized controlled trial of 34 women, IV conjugated equine estrogen was shown to stop bleeding in 72% of participants within 8 hours of administration compared with 38% of participants treated with a placebo.

3.) A theoretical risk of thromboembolic complications has been inferred on the basis of previous studies of oral contraceptives and estrogen replacement therapy. However, only 1 case has been reported with use of short-term intravenous CEE therapy. In that case, the patient was treated with intravenous CEE for severe menorrhagia, and she was also taking GnRH agonist treatment combined with add-back therapy consisting of 0.625 mg of CEE plus medroxyprogesterone acetate 10 mg for uterine fibroids.

4.) Once hemodynamic stability has been achieved, the patient can be treated with progesterone-only hormonal therapy—10 mg of medroxyprogesterone (Provera) once a day for 14 days—and outpatient follow-up in 2 to 4 weeks.

Conclusions:
IV estrogen therapy can serve as an effective adjunct hemostatic therapy to complement fluid resuscitation in the acute management of a patient with severe uterine bleeding. Although reports of acute complications in patients with history of thromboembolic event or risk factors are rare, **more research is necessary to quantitatively assess the long-term risk of IV estrogen therapy in this population. In all cases, patients should be counseled on potential risks and benefits prior to initiation of therapy.**

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