Recurrent hemorrhage from corpus luteum during anticoagulant therapy

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A 43-year-old woman had recurrent massive intraperitoneal hemorrhage from rupture of a hemorrhagic corpus luteum in two successive menstrual cycles while receiving anticoagulant therapy. Left oophorectomy was performed on the first occasion and right salpingo-oophorectomy with left salpingectomy on the second. While the precise incidence cannot be determined, rupture from a hemorrhagic corpus luteum appears to be a rare but potentially catastrophic complication of anticoagulant therapy. Hence possible ovarian hemorrhage should be considered in women of reproductive age receiving heparin or sodium warfarin therapy.

Discussion

There are many reports of bleeding from a corpus luteum causing massive intraperitoneal hemorrhage in premenopausal women; Fitzgerald and Martin have referred to this event as an "ovarian vascular accident". The formation of the corpus luteum begins with the release of an ovum from a ripe follicle. According to Novak and Woodruff bleeding does not normally occur from the stigma because it becomes plugged with fibrin. Ovulation is followed by a stage of proliferation or hyperemia, consisting of follicular collapse and luteinization of the granulosa layer, which is devoid of blood vessels. The lumen of the corpus still contains no blood. The stage of vascularization then occurs: the granulosa layer is penetrated by blood vessels that pass vertically towards the cavity of the corpus luteum, filling the cavity with blood. If this corpus luteum hematoma ruptures, intraperitoneal hemorrhage may occur, especially if the woman's clotting mechanisms are depressed by anticoagulant therapy.

The complications of anticoagulant therapy, which was introduced in the late 1930s, are infrequent but can be extremely serious. Gurewich and Thomas listed the more common complications as gastrointestinal bleeding, hematuria, cerebral hemorrhage, subcutaneous ecchymosis, epistaxis and hemoptysis, and the rare complications as spontaneous spinal epidural hematoma, bilateral adrenal hemorrhage, hemopericardium, hematoma of the rectus abdominis and intraperitoneal hemorrhage of ovarian origin. We were able to find only six reports in the English literature, published between 1957 and 1976, of massive intraperitoneal hemorrhage originating from the corpus luteum in 10 women who were taking anticoagulants for various reasons. The exact incidence of this complication cannot be determined but this small number of reports suggests that it occurs infrequently.

Because it is a potentially life-threatening complication, hemorrhage from a ruptured corpus luteum cyst should be considered in any woman of reproductive age who is given anticoagulant therapy. Consideration should be given to stopping the therapy when ovarian enlargement is detected. Hemoperitoneum should be sought by culdoscopiosis.

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in such patients who present with an acute abdomen, and if it is detected laparotomy should be undertaken immediately. The definitive surgical procedure should be determined by the operative findings and the circumstances of the individual patient. Before operation anticoagulation should be reversed with protamine sulfate if heparin was the anticoagulant administered, and vitamin K if it was sodium warfarin.

References

1. FITZGERALD JA, MARTIN VB: Accurate diagnosis of "ovarian vascular accidents". Obstet Gynecol 13: 175, 1959

New incubator ready for testing

A prototype portable incubator developed by medical engineers at the National Research Council of Canada has been pretested in collaboration with the Children's Hospital of Eastern Ontario in Ottawa, and is now ready for animal trials and clinical evaluation.

To ensure against inadequate heating in the incubator, which could lead to debilitating hypothermia in premature or critically ill babies, the developers chose radiant heating in preference to the hot-air system of most incubators; radiant heating uses less power and provides a faster response to the infant's needs. A specially designed humidifier keeps the humidity as high as required and thus helps combat respiratory distress syndrome. Fogging of windows does not occur because the transparent plastic double-walled windows are heated by the radiant heat. All access openings have a gasket. A small constant flow of oxygen is available when needed, with a variable flow of air to dilute it. The air flow is provided by a servo-controlled constant-displacement pump that permits any desired oxygen concentration to be established and maintained independent of external variations.