

## Case Report

# Corpus Luteal Hemorrhage in Coagulopathy; A Case Report with Review of Treatment Modalities

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## Abstract

Spontaneous hemoperitoneum consequent to corpus luteum rupture in woman on oral anticoagulation is unusual entity. A standard algorithm for management is not described and over a period of time there has been shift from surgical to conservative approach. Early accurate diagnosis and appropriate therapy significantly reduce morbidity and mortality associated with this condition. We hereby report successful management of massive hemoperitoneum due to coagulopathy with conservative approach. This case report discusses non operative versus operative management in spontaneous hemoperitoneum and may provides value addition to readers regarding emerging conservative approach in most of the cases.

**Keywords:** Hemoperitoneum; Corpus Luteal Hemorrhage; Anticoagulation; Management; Conservative

## Case Report

A 40 year old multiparous woman presented to the gynae emergency with acute abdominal pain, distension and shortness of breath for last two days. There was no history of fever vomiting, bleeding or discharge per vaginum. She had two vaginal deliveries and was using barrier contraception. She had mitral valve replacement ten years back because of severe mitral valve stenosis with regurgitation and since then was on warfarin (Coumadin) 6/7 mg on alternate days. General physical examination revealed marked pallor, tachycardia of 126/min and blood pressure of 100/70 mm of Hg. Abdomen was markedly distended and free fluid was elicitable. Pelvic examination revealed normal sized uterus with fullness in both fornices. There was no definite mass palpable and her urine pregnancy test was negative. Laboratory investigations revealed prothrombin time of = > 2minutes & PTI=25%, INR = 5.2, Hemoglobin=3.1gm, Platelet count =84000 and TLC=19200. Abdominal sonography showed massive free fluid in abdomen, empty uterus and left adnexal mass 2.7 x 3cm. A provisional diagnosis of corpus luteal hemorrhage was made, warfarin stopped and decision for conservative management was taken. The patient was transfused 3 units of blood and 5 units of fresh frozen plasma. An echo cardiography showed normal functioning valves and computed tomography revealed gross free fluid with heterogeneous mass of 4x 5 cm in left adnexa. Uterus and right ovary were normal. No active bleeding vessel was identified on CT angiography. Patient progressively improved on conservative management with supportive therapy, anticoagulation restarted, given injection DMPA to suppress ovulation (Depot medroxy progesterone acetate) and discharged on tenth day with INR of 2.0.

## Discussion

Patients with prosthetic heart valves are at an increased risk of thromboembolic events and therefore no doubt that they need lifelong anticoagulation. Although anticoagulation use has reduced embolic complications to much extent but at the same time women on anticoagulation can have significant bleeding diathesis requiring

emergency interventions. A dedicated monitoring of coagulation profile in patients on long term anticoagulation is needed to prevent bleeding diathesis. These may present as hematuria epistaxis, menorrhagia, GI bleed, intracranial bleed and ovarian hemorrhage due to rupture of follicle or corpus luteum. Unusual site may be rectus sheath hematoma, retroperitoneal or intramural bowel hematoma etc.

Ovarian hemorrhage with hemoperitoneum related to rupture of corpus luteum is a rare but serious complication of chronic anticoagulation therapy. Though literature mention lot of case series of corpus luteal hemorrhage, bleeding related to prosthetic heart valve has been addressed in few [1-3]. In this group of patients mortality has been reported as 3-11% and may recur in 25-31% of cases [4,5].

Patients of corpus luteal hemorrhage usually present with complaints of sudden abdominal pain, most often on right side as left ovary is being protected from trauma by recto-sigmoid colon [2]. Signs of peritonitis on examination have led to the erroneous diagnosis of ruptured ectopic, acute appendicitis and salpingitis. Detailed history, clinical examination, lab investigations & radiology, negative pregnancy test and high index of suspicion are tools of accurate diagnosis.

A standard algorithm is not described for management of such patients. Treatment is aimed at eliminating the source of bleeding and preserving the ovaries. Early diagnosis is crucial because most patients can be treated conservatively with good outcome. Over a period of time there has been shift from surgical to conservative approach [6]. Surgical approach has been preferred in past for few reasons: 1) diagnostic dilemma 2) spontaneous absorption of hemoperitoneum result in intra abdominal adhesions 3) natural course of spontaneous hemoperitoneum is not defined and there is no sensitive tool to monitor such patients. However, few observations in literature have challenged validity of this modality as first therapy. First, hemoperitoneum up to 1litre gets absorbed within a week and non inflammatory ovarian bleeding is not associated with intra abdominal

adhesions Murao et al [7]. Has reported rather increased risk of pelvic adhesions with laparotomic management of hemoperitoneum [8]. Second intraoperative findings in most patients had revealed spontaneous homeostasis of ovarian bleeding. Third, in modern era with the help of highly sensitive diagnostic tools early accurate diagnosis and conservative management of these patients is possible up to great extent. Operative intervention is required in circulatory collapse, unstable cases or where other causes of acute abdomen are in mind or patient fails to settle on conservative management [9].

The conservative modality is aimed to evaluate or replace vitamin k dependent clotting factors and to stop warfarin immediately. Although vitamin k is the treatment of choice but higher doses may lead to warfarin resistance and hence avoided. Fresh frozen plasma is widely acceptable and provides fast partial reversal of the coagulopathy through the replacement of exogenous factors II, VII, IX and X. The advantages of recombinant factor VII use include INR correction within hours, rapid administration, smaller infusion volume and decreased risk of transfusion associated adverse reactions. Usually these corpus luteal hemorrhages are self limiting and respond to these measures as in our case. As corpus luteum hemorrhage may reoccur in good number of cases, ovulation suppression should be considered. In a prospective study of 13 patients, Sonmez et al has reported use of depot medroxyprogesterone (DMPA) to suppress ovulation in anticoagulated patients with prosthetic heart valves [9]. Low dose combination pills or gonadotrophic releasing hormone have also been used in patients with congenital and iatrogenic clotting factors. This case highlights the possibility of spontaneous hemoperitoneum in patients on anticoagulant therapy. Corpus luteal hemorrhage should be considered as differential in women of reproductive age group on anticoagulation and presenting with hemoperitoneum. With early accurate diagnosis and strict monitoring along with supportive measures most of the patients can be managed conservatively.

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