



## AN INTERESTING CASE OF ACUTE ABDOMEN

## Cardiology

<b>Dr. J. Nambirajan</b>	Associate Professor & HOD, Department of Cardiology, Coimbatore Medical College Hospital
<b>Dr. Moosa Saheer K*</b>	Postgraduate Resident, Department of Cardiology, Coimbatore Medical College Hospital*Corresponding Author
<b>Dr. J. Jagadish</b>	Assistant Professor, Department of Cardiology, Coimbatore Medical College Hospital
<b>Dr. Praveen Kumar</b>	Postgraduate Resident, Department of Cardiology, Coimbatore Medical College Hospital

## ABSTRACT

Warfarin is a coumarin anti-coagulant, which is widely used for the therapeutic and prophylactic anticoagulation. It is considered as a lifesaving medicine, though associated with the significant adverse effects including minor bleeding like gum bleeding to life threatening intra-abdominal bleeding, which have been very well documented in literature. We report a rare, spontaneous intra-peritoneal bleeding secondary to warfarin therapy due to corpus luteum rupture in a reproductive period woman and its management.

## KEYWORDS

Hemoperitoneum, Anticoagulants, Coagulopathy

## INTRODUCTION

One of the most common cause for cardiac morbidity and mortality is several types of Valvular heart diseases<sup>1-3</sup>. The present data estimate the overall prevalence of VHD in the United States to be 2.5% and those over the age of 75 to be as high as 13.3%<sup>4</sup>. In developing nations Rheumatic heart disease (RHD) continues to be the dominant form of heart valve disease, while in developed countries, degenerative valve diseases are more common<sup>5</sup>.

One of the important treatment options for VHD is valve replacement by either bio or mechanical prosthetic valve<sup>6-7</sup>. Thrombotic and embolic complications and anticoagulation-related bleeding are by far the most prevalent contributors to morbidity and mortality after surgery for VHD<sup>8-9</sup>. The risk of thromboembolic complications is greatest during the first three months after surgery for both mechanical and bioprosthetic devices, with persistent life-long risk for patients with mechanical valves<sup>10-11</sup>. These considerations underscore the importance of addressing proper anticoagulation techniques to minimize postoperative thrombotic complications, while maintaining acceptable levels of risk related to bleeding.

Women on reproductive period with prosthetic valve replacement and on anticoagulants are more prone to hemoperitoneum due to ruptured corpus luteum, although its incidence is very low. It is secondary to anticoagulant induced coagulopathy. For the proper management of such cases needs involvement consultation of gynecologist, cardiologist and hematologist. Surgery may increase the bleeding and thromboembolism risk. Bleeding complication in warfarin coagulopathy has high mortality from 3%-11% and also risk of recurrence in 25- 31%<sup>12-13</sup>. Due to high risk of bleeding complication of surgery in these patients, usually we start conservative management by stopping warfarin and reversing anticoagulation with FFP and vitamin K, bleeding usually stops. However, warfarin has to be restarted immediately after management of initial crisis, otherwise causes thromboembolic risk. In long term, ovulation bleed prevented by ovulation inhibiting drugs like oral pills (OCP) or injectable progestins.

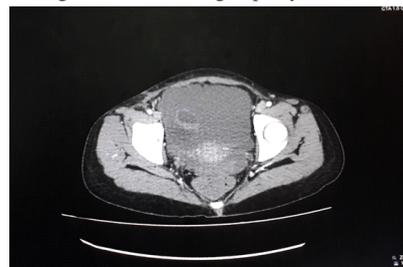
## Case Report

A 32 years old female patient referred from a nearby private hospital to our college with complaints of lower abdominal pain, which was colicky in nature, associated with many episodes of non-bilious vomiting, and loose stools for last 6 days. Patient also complaining of intermittent high-grade fever, with chills and rigors. Patient also give history of abdominal distention for last 2 days. Patient did not give any history of abdominal trauma. On past history of medical illness enquiry, patient revealed the history of heart valve replacement 6 months back from a private hospital and she was on Oral anticoagulation. Her follow up was irregular. Her LMP was 2 days

before the admission.

On examination patient was conscious and oriented. Tachypneic, pallor present. PR-134/mt, BP- 80/50 mHg, RR- 24/mt, SpO<sub>2</sub>-96% in RA, T-101-degree F. On systemic examination, there was prosthetic valve click present at mitral area. On abdominal examination, generalized abdominal distention present, and guarding also present. There is diffuse tenderness present, also free fluid present.

Our provisional diagnosis was acute abdomen for evaluation. As patient is a child bearing age group the first d/d was to rule out ruptured ectopic, and twisted ovarian cyst and ruptured ovarian cyst. Others are, acute appendicitis, cholecystitis, pancreatitis, spontaneous bacterial peritonitis, mesenteric thrombosis and spontaneous hemoperitoneum. Immediately diagnostic peritoneocentesis done, which suggestive of hemoperitoneum. Patient got emergency bed side USG, which suggestive of 4.1\*3.8 sized compact ovarian cyst with septation in Right ovary with moderate free fluid in abdomen and pelvis with low level internal echoes. Send routine investigation, meanwhile started treatment with fluid and injection higher antibiotics. Investigation showed severe anemia and elevated PT INR. Patient took CECT abdomen and pelvis, which suggestive of complex ovarian cyst in right adnexa-hemorrhagic with features of rupture with hemoperitoneum. The final diagnosis was Ruptured ovarian cyst with hemoperitoneum-probably Anticoagulant induced coagulopathy.



**Fig 1: -Cross sectional Plain CT of abdomen and pelvis of patient showing ruptured Corpus luteum and intra peritoneal hemorrhage.**

Patient managed with adequate fluid and electrolyte. In view of anemia and feature of coagulopathy, patient transfused whole blood and FFP. Started higher antibiotics. Stopped oral anticoagulant and started inj. Heparin till the coagulopathy reversed. By the 3rd day of admission patient became asymptomatic and vitals became stable, coagulopathy recovered. On the day 5 patient restarted oral anticoagulant under cover of heparin. Patient discharged by 12th day without any symptoms.

## DISCUSSION

Anticoagulants are a lifesaving drug, especially for prosthetic valve patients. The incidence of bleeding risk during its use is between 2% and 13%. Most common bleeding manifestations are non-fatal, like gum bleeding, and rarely causing life threatening bleeding, especially intracranial, intra or extra peritoneal, hemothorax etc. The most common using oral anticoagulants are VKA. Its risk of hemorrhage is directly related to the intensity of the anticoagulant effect. Studies indicate that with a target INR of >3.0, the incidence of major bleeding is twice as large as in studies with a target INR of 2.0-3.0<sup>14</sup>. So, it's very important to monitor closely the bleeding risk by PT INR test regularly in these patients.

One of the most common causes for spontaneous hemoperitoneum among patients on anticoagulation therapy is anticoagulant related coagulopathy, especially among reproductive age women. So, patient presenting with features of acute abdomen, the one of the differential diagnosis should be hemoperitoneum, especially among child bearing age women with anticoagulation therapy, even though the most common causes are rupture of ovarian cyst, ruptured ectopic pregnancy etc. For diagnosing spontaneous peritoneal hemorrhage and confirming the site of bleeding, USG and CT can be used.

For the management of spontaneous peritoneal hemorrhage, there is no standard protocol. Usually the treatment of corpus luteum hemorrhage is exclusively surgical, laparotomy or Laparoscopy and suturing, diathermy or wedge resection or even oophorectomy and salpingo – oophorectomy. A conservative approach is reported in a few case reports<sup>14,15,16,17,18</sup>. In our case the patient is in reproductive age period, so our treatment targets at preserving ovarian function as well as at eliminating the source of bleeding.

To restore hemostasis and to prevent hemorrhage within the case of important injury because of anticoagulant, uses Prothrombin Complex Concentrate (PCC), FFP, and vitamin K. If patient is hemodynamically stable (systolic BP >90 mmHg) with Hb values that keep being constant over 4-6 hours of watching, a conservative approach is tried, like discontinuing vitamin K antagonists. If not controlled higher than management, PCC ought to be administered right away with ten mg vitamin K supplement given I/V (grade C, level 3). FFP used providing PCC aren't offered (grade B, level 2), as in Asian country. The recombinant activated coagulation factor (rF VIIa) isn't suggested (grade C, level 3). Subcutaneous and intramuscular administration of vitamin K ought to be avoided. The INR start to drop at intervals of 2 hrs of administration of I/V vitamin K and are going to be fully normalized at intervals 12–16 hours. The usual, suggested dose of FFP is 15 mL/kg. however, attention should be paid to the danger of volume overload. Attributable to its immediate result and little volume of infusion that avoid fluid overload, PCC is taken into account because the treatment of alternative for speedy reversal of oral medical care<sup>15,16,19,20,21</sup>. However in Asian country PCC aren't offered, thus FFP is employed rather than it. In long term management plan, consideration should be given to inhibiting ovulation in future to prevent ovulation bleed.

## CONCLUSION

Patients, especially on oral coagulants, presenting with acute abdomen, one of the important differential diagnosis should be peritoneal hemorrhage of various etiologies. In reproductive age group women, corpus luteal hemorrhage should be considered as a possibility. Because of high risk of life-threatening bleeding, we can try conservative management with Packed Cell, FFP, Vit K, and withholding warfarin, for homeostasis. Immediately after attaining hemostasis, patient should be restarted on warfarin and also given OCP or POP for preventing ovulation associated bleeding in future.

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