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Non-Operative Treatment of Intraabdominal Hemorrage due to Warfarin Use: Two Patient Reports

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Abstract
Warfarin is a potent anticoagulant agent that responds to the inhibition of vitamin K-dependent coagulation factors and the most dangerous side affect of warfarin is hemorrhage. Unwanted hemorrhagies due to warfarin use may ocur in all body cavities and such conditions can occasionally bring about mortal complications. Patients with intraabdominal, retroperitoneal, intramural, or intraluminal bleeding and bleeding into the rectus muscle may have acute abdomen complaints. Among the treatment options for these patients are operative or non-operative methods. In the light of literature, we aim to present non-operative treatment proceses of two cases with intraabdominal hemorrhage due to warfarin in this study.
Key Words: Warfarin; Intraabdominal Hemorrhage; Non-Operative Treatment.

Warfarin Kullanımına Bağlı Gelişen İntraabdominal Kanamaların Non-operatif Tedavisi: İki Olgu Sunumu

Özet
Warfarin, K vitaminine bağımlı koagulasyon faktörlerinin inhibisyonuna neden olarak etki gösteren potent bir antikoagulan ajandır ve en tehlikeli yan etkisi kanamadır. Kardiak kapak replasmanı, geçirilmiş derin ven trombozu, pulmoner emboli profilaksisi ve karotis arter trombozu olan hastalarda serebrovasküler hastalık riskini azaltmak amacıyla sıklıkla kullanılmaktadır Warfarin kullanımına bağlı tüm vücut boşluklarında istenmeyen kanamalar meydana gelebilir ve zaman zaman mortal seyreden komplikasyonlara neden olabilir. İntraabdominal, retroperitoneal, intramural, intraluminal, rektus kası içine olan kanamaları olan hastalar akut karın tablosu ile hastaneye başvurabilirler. Bu hastalar için tedavi seçenekleri operatif ve non-operatif olabilir. Bu çalışmada non-operatif izlemle tedavi ettiğimiz, warfarin kullanımına bağlı gelişen intraabdominal kanamalı 2 olguyu litaratür bilgileri eşliğinde sunmayı amaçladık.
Anahtar Kelimeler: Warfarin; İntraabdominal Kanama; Operatif.

INTRODUCTION

Warfarin is a potent anticoagulant agent that responds to the inhibition of vitamin K-dependent coagulation factors. It is widely used around the whole world to reduce the risk of cerebrovascular diseases in patients with a history of cardiac valve replacement, deep vein thrombosis, pulmonary embolism prophylaxis, and carotid artery thrombosis. The most dangerous side effect of warfarin use is bleeding. Unwanted bleeding can occur in any body cavity due to the use of warfarin and sometimes such bleeding may cause mortal complications. The density of bleeding usually depends on the duration of use and dose (1). However, the potent nature of warfarin as an agent may bring about difficulties in adjusting the dose of the drug (2). Patients with intra-abdominal, retroperitoneal, intramural, and intraluminal bleeding and those with bleeding in the rectus muscle usually present to the hospital with acute abdomen issues (3). In these patients, both operative and non-operative methods can be evaluated as treatment options (4). In this study, we aim to present the cases of two patients with intra-abdominal haemorrhage due to warfarin use who were treated using non-operative methods along with a brief survey of similar cases in the literature.

CASE REPORTS

Case 1

A 42-year-old female patient was admitted to the emergency department with complaints of a sudden onset of abdominal pain, dizziness, and palpitations that had started two days ago. With no history of any traumas, the patient had undergone a aortic valve replacement operation 7 years ago. She has regularly been using 5 mg/day of warfarin and 100 mg/day of acetylsalicylic acid. The patient's arterial blood pressure (BP) was 90/60 mmHg with a heart rate of 110 beats/min. The physical examination showed abdominal tenderness and rebound which was more pronounced in the lower abdominal quadrants. The laboratory test results were as follows: haemoglobin (Hb): 10.5 g/dL; hematocrit (Hct): 30.4%; leukocyte (WBC): 8000/mm3; platelets (Plt): 222000/mm3; prothrombin time (PTZ): 42.4 (10-14) seconds; partial thromboplastin time (aPTT): 58.4 (21-36) seconds; INR: 4.5 (0.85-1.15); the pregnancy test (b-HCG) was negative. Abdominal ultrasonography (USG) showed free fluid in the right lower quadrant of the abdomen and the Douglas space while the computed tomography (CT) showed intense free abdominal fluid in each of the two lower quadrants and the pelvis (Figure 1, 2). To find out whether the free

abdominal fluid was blood or some infected fluid, a sampling was planned. We performed an ultrasound-guided sampling and tried to aspire the hemorrhagic fluid as safely and easily as possible. The patient was hospitalised with the ovary-related intra-abdominal hemorrhage pre-diagnosis due to warfarin overdose. Warfarin therapy was discontinued. We started an intravenous therapy of low-molecular weight heparin (Enoxaparin sodium 0.8 ml) and vitamin K (20 mg/day). We also administered one unit of packed red blood cells (ES) and three units of fresh frozen plasma transfusion (TDP). The patient's vital signs remained stable at the follow-up. The laboratory results at the check-up were as follows: Hg: 12.6 g/dL; hematocrit: 36.4%; PTZ: 12.6 seconds; aPTT: 29.6 seconds; and INR 1.0. Having considered these results we restarted a warfarin use of 5 mg/day. The patient was discharged on the 6th day of her hospitalisation. The follow-up CT after two months did not show any sign of intra-abdominal free fluid and both ovaries had normal display.

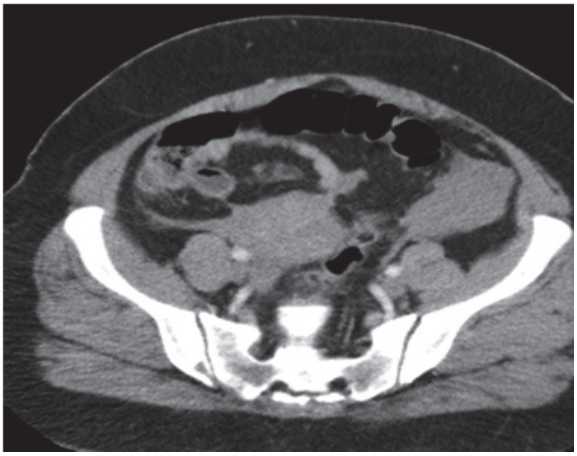

Figure 1. Hemorrage in the right lower abdominal around the uterus.

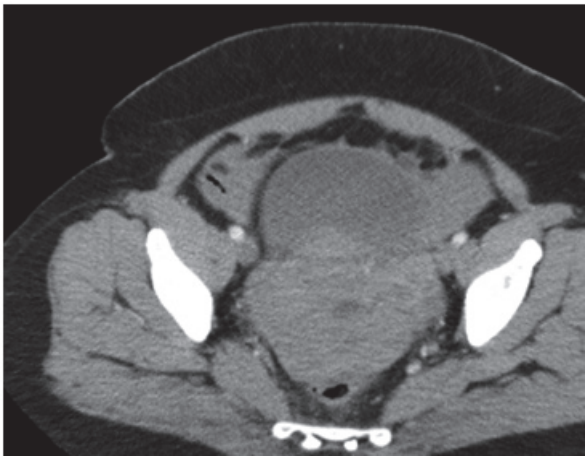

Figure 2. The CT image showing free abdominal fluid in the pelvis.

Case 2

A thirty-five-year-old male patient was admitted to the emergency department because of abdominal pain that started two days ago. Having undergone an aortic and mitral valve operation seven years ago, he was on warfarin 5 mg/day. TE was 100/60 mmHg and the pulse was 96 beats/min. Especially dense around the umbilicus, the patient had abdominal tenderness and rebound around both lower quadrants. The laboratory test results were as follows: Hb: 12.5 g/dL; hematocrit: 37.8%; WBC: 12.6/mm3; Plt: 233/mm3; PTZ: 26.2 seconds; aPTT: 41.6 seconds; INR: 2.2. Abdominal ultrasonography showed approximately 8cm deep partially dense pelvic haemorrhage in the perihepatic and perisplenic regions as well as around all the quadrants of the abdomen along with a 9x7x4cm organised hematoma on the anterior abdominal wall at the umbilicus level. Abdominal CT revealed free haemorrhage in perihepatic and perisplenik regions and between the bowel loops in addition to and a hematoma of 6.5cm in depth in the lower abdominal quadrant (Figure 3). The patient was taken to the intensive care unit for monitoring. Warfarin was discontinued and we administered low-molecular weight heparin. We followed CBC and coagulation parameters daily. On the 5th day his hospitalisation, the test results were Hb: 11.1 g/dl; Htc: 31.1%; PTZ: 19 seconds; APTT: 35.1 seconds; and INR: 1,7. We restarted warfarin with 5 mg/day. Observing his good general condition, we discharged the patient in good health on the 6th day of his hospitalisation.

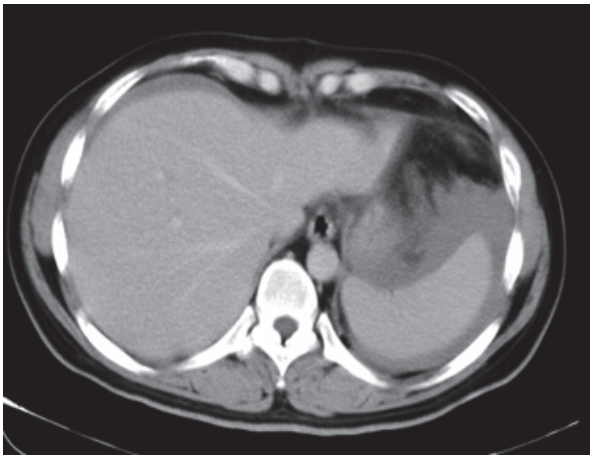

Figure 3. The CT image of the abdomen showing free intra-abdominal fluid (hemorrage).

DISCUSSION

Warfarin is a commonly used agent in the prophylaxis of diseases associated with thromboembolism. The the most important causes of non-traumatic abdominal bleeding in patients on warfarin therapy are spontaneous retroperitoneal hematoma, intramural hematoma developing in the small intestine, bleeding into the abdomen, and gynecological bleedings. Both of the patients in our report had intra-abdominal haemorrhage, the first of which was a result of ovary-related bleeding. Ovary related bleedings in women of

child bearing age with acute abdominal symptoms and intra-abdominal bleeding must be investigated and should be considered in the differential diagnosis of ectopic pregnancy rupture (5). To tell ovary related spontaneous intra-abdominal haemorrhage due to warfarin use from ectopic pregnancy rupture related bleeding in young patients b-HCG value is significantly beneficial.

Throughout the diagnosis and follow-up periods, we applied routine monitoring of hemogram values and coagulation parameters, which also helped us regulate our treatment protocol. We also performed regular abdominal ultrasound and CT in the diagnosis and follow-up stages. Evaluating hemorrhagic content by sampling the dense intra-abdominal fluid is functional in the diagnosis. Partially invasive, this method is only feasible with the attendance of an experienced radiologist guided by ultrasound and by choosing the easiest area from which the sampling can be carried out. Otherwise additional bleeding or perforation inside the hollow organs can take place and turn the patient's condition to a more complicated state.

In order to treat warfarin-oriented bleeding, either operative or non-operative methods may be preferred. In the selection of treatment options, it is important that the patient is hemodynamically stable (4). Because a surgical intervention is likely to increase bleeding or raise the risk of surgical complications in stable patients, monitoring and treating the patient in intensive care unit can be considered. The priorities in non-operative treatments are to discontinue oral anticoagulants agents, starting low-molecular weighted heparin, regulating coagulation parameters by fresh frozen plasma and vitamin K administration, performing blood transfusion, and supplying liquid support so as to maintain hemodynamic stability. Ongoing bleeding despite treatment, hemodynamic instability, or peritonitis may require surgical treatment.

To conclude, it can be stated that non-operative treatment methods may be preferred in warfarin induced non-traumatic intra-abdominal bleeding if the patient is hemodynamically stable. Practitioners should also consider whether there is ongoing bleeding and development of acute abdominal symptoms or not before starting non-operative treatment.

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