

# Warfarin Therapy Induced a Rare Complication: Spontaneous Intramural Hematoma of the Jejunum: Case Report

## Warfarin Tedavisine Bağlı Nadir Bir Komplikasyon: Jejunumda Spontan İntramural Hematom

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**ABSTRACT** Warfarin is an oral anticoagulant drug that prevents clotting, used in treating many diseases as well as prophylaxis. Despite its widespread use and efficacy, it may lead to a wide range of adverse effects, mainly bleeding, due to its quite narrow therapeutic index and interaction with other medications. Most commonly, it may result in epistaxis, hematuria and subcutaneous hemorrhage. In addition, it is likely to cause bleeding in the gastrointestinal tract, soft tissues, and cerebral region. It is rare to develop intramural hematoma in the jejunum resulted from warfarin toxicity. Here, we present a case admitted to the emergency department with abdominal pain, and diagnosed with intramural hematoma after physical examination, laboratory findings and imaging. Emergency physicians should consider intestinal hematoma as differential diagnosis in patients using warfarin and presenting with abdominal pain.

**Keywords:** Warfarin; abdominal pain

**ÖZET** Warfarin pıhtılaşmayı önleyen oral antikoagulan ilaçtır. Birçok hastalık tedavisinde ve profilaksisinde kullanılmaktadır. Yaygın kullanım alanına ve etkinliğine rağmen, terapötik indeksinin oldukça dar ve ilaçlarla etkileşimin olması, kanama başta olmak üzere birçok yan etkilere sebep olmaktadır. En sık epistaksis, hematüri, cilt altı hemorajiye sebep olabilir. Bunun yanı sıra gastrointestinal sistem, yumuşak doku, serebral bölgede kanamalara yol açabilir. Warfarin toksisitesine bağlı jejunumda intramural hematom gelişmesi nadir görülen bir olaydır. Acil servise karın ağrısı ile başvuran, ayrıntılı hikaye, fizik muayene, laboratuvar bulguları ve görüntülemeler sonrası intramural hematom tanısı konulan olgu sunuldu. Acil servise karın ağrısı ile başvuran ve warfarin kullanan hastalarda ayırıcı tanıda intestinal hematom düşünülmelidir.

**Anahtar Kelimeler:** Warfarin; karın ağrısı

Warfarin is the most commonly used oral anticoagulant drug in the treatment of many diseases including cardiac, pulmonary, vascular and cerebral origins in order to prevent thromboembolic events.<sup>1</sup> Since it has a narrow therapeutic range, there confronted with various problems in adjusting the therapeutic dose. Dose adjustments are made between 2 and 3 values of the International Normalized Ratio (INR) to follow the effectiveness of the treatment administered. The most serious complication which is associated with the use of warfarin is bleeding due to excess anticoagulation, which occurs in about 7.6% of the patients.<sup>2</sup> The majority of warfarin overdose-related bleeding can be reduced with medical treatment, while others can reach to life-threatening levels. In treatment,

bleeding related to overdose can be controlled by means of just adjusting warfarin dose, as well as using fresh-frozen plasma, vitamin K and prothrombin complex concentrate.<sup>3</sup> The most common sites of such bleeding include the gastrointestinal tract, soft tissues and the urinary tract. Gastrointestinal tract could be originated bleeding intramural, intraluminal, intramesenteric, retroperitoneal, and intraperitoneal.<sup>4</sup> A spontaneous, intramural, intestinal haematoma is a rare complication of the anticoagulant therapy.<sup>2</sup> The small intestinal hematoma may present as acute abdomen. Abdominal pain and vomiting are the most common symptoms.<sup>5</sup> Intramural hematoma-induced evidence of obstruction may also present.

## CASE REPORT

54-year-old male patient admitted to our emergency medicine department with abdominal pain which had begun four days ago. He had hypertension, diabetes, coronary artery graft operation (CABGO) and mitral valve replacement operation in his medical history. He had taken warfarin 5 mg per day as anticoagulant therapy after mitral valve replacement. Arterial blood pressure was 110/70 mmHg and pulse rate was 82/min on admission. In physical examination, there was only periumbilical tenderness. In laboratory findings, white blood cell:  $10,3 \times 10^3/\mu\text{L}$ , hemoglobin: 15.5 g/dL, platelet:  $191,000/\mu\text{L}$ , and International Normalized Ratio (INR) was 8.97. Abdominal plain radiography and abdominal ultrasonography were in normal. Contrast-enhanced abdominal computed tomography revealed intramural hematoma in jejunal segment of intestine (Figure 1). Two units fresh frozen plasma were administered and the patient was consulted with general surgeon. In general surgery consultation recommended conservative treatment. On the third day of treatment, the abdominal pains of the patient subsided and he was discharged from hospital without any abnormalities.

## DISCUSSION

Anticoagulant therapy certainly is a risk factor for traumatic hematoma, but the most particular as-

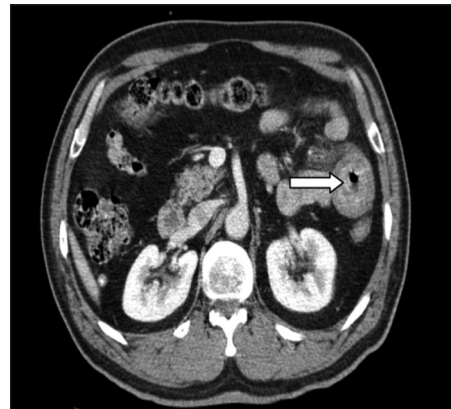


FIGURE 1: Abdominal computed tomography showing intramural hematoma.

pect of intramural hematoma in anticoagulated patients is its spontaneous formation without any trauma. Most authors report cases of patients treated with warfarin, with a ratio of warfarin to heparin approximately 50:1 and the incidence of hematoma in these patients estimated at 1:2500. Clinical symptoms of intramural hematoma may comprise abdominal pain, haemorrhagic and obstruction findings of small bowel.<sup>6</sup> Patients can also present with gastrointestinal bleeding due to rupture of the hematoma. In the presence of signs of peritoneal irritation, hematoma complications like necrosis, perforation and hemoperitoneum should be suspected.<sup>7</sup> Diagnosis is often delayed due to forgetting it, and a definite diagnosis can only be made after urgent laparotomy or radiological imaging.<sup>8</sup> There was no complaints of nausea, vomiting or constipation, apart from abdominal pain in our case. The most useful methods for diagnosing intestinal intramural hematoma include ultrasonography and tomography. Intramural hematoma, retroperitoneal, intraperitoneal and rectus hematoma are often detected clearly using computed tomography (CT). In our case, pathologic findings were detected by abdominal ultrasonography, and subsequent abdominal tomography revealed intramural hematoma. Most of the hematomas are intact and therefore can be seen in the jejunal segments.<sup>4</sup> Fresh-frozen plasma, vitamin K and prothrombin complex concentrate can be given in conservative treatment. Conditions requiring surgery are serious intraluminal bleeding, bowel perforation or

the presence of ischemia.<sup>9</sup> In a study, Abdel Samie and Theilman reported a case of intramural hematoma in four patients who received an anti-coagulant (phenprocoumon) due to atrial fibrillation. Of these, 2 were localized in the jejunum, whereas 1 in the duodenum and 1 in the rectum. Two patients were followed up with conservative treatment, and other 2 patients underwent surgical intervention.<sup>10</sup> Abbas et al. reported in 13 series of disease that medical treatment was successful in patients with minor intramural hematoma as well as an average segment involvement of 23 cm.<sup>4</sup> Rashmi et al. demonstrated that the patient with acute abdominal presentation and using warfarin was diagnosed with jejunal hematoma, and followed up with conservative treatment.<sup>11</sup> It has been reported in the literature that patients presented with acute abdominal pain were found to have ischemia and hematoma in the small intestine after performing diagnostic laparotomy. Furthermore, the literature had statements about small intestinal obstruction. However, there was no evidence of obstruction in our case. While the clinical symptoms were evident in spontaneous in-

testinal hematoma cases in the literature, our case had no symptoms or signs other than mild but persistent abdominal pain. Similarly, our case who received fresh frozen plasma was followed up with conservative treatment without any need to surgical intervention. An increase in the incidence of spontaneous small intestinal hematoma can be expected today due to increased number of geriatric patients treated with anticoagulant. As seen in our case, it is emphasized that the emergency physicians should consider small intestinal hematoma as differential diagnosis in patients using oral anti-coagulant and presented with abdominal pain.

#### **Informed Consent**

*Written informed consent was obtained from patient who participated in this case report.*

#### **Conflict of Interest**

*Authors declared no conflict of interest or financial support.*

#### **Authorship Contributions**

**Concept:** Hanifi Arslan; **Design:** Mehmet Gül; **Supervision:** Başar Cander; **Literature Research:** Mohamed Refik Medni; **Writing:** Hanifi Arslan; **Critical Review:** Hakan Güner.

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