

# Hematoma After Anterior Sciatic Nerve Block: Case Report

## Anterior Siyatik Blok Sonrası Gelişen Hematom: Olgu Sunumu

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**ABSTRACT** Anterior sciatic nerve block when combined with femoral nerve block provides anesthesia of the lower extremity from knee level below. In this case, hematoma secondary to anterior sciatic nerve block was presented. A 58-year-old female with fracture of the tibia, we planned her go to surgery. Patient had an aortic valve replacement operation and since then she had been on warfarin. Enoxaparin was started and under normal value of coagulation parameters patient's femoral nerve block was performed. Then, anterior sciatic block was attempted. After second attempt patient was turned on her side and posterior sciatic nerve block was performed. Case was discharged on fourth postoperative day and brought to the emergency room because of syncope on 8<sup>th</sup> postoperative day. She had had a hematoma on proximal antero-lateral femur. So the peripheral block patients should be controlled more carefully in the postoperative period and long term follow up should be obtained by calling the patients after discharge.

**Key Words:** Nerve block; hematoma; enoxaparin

**ÖZET** Anterior siyatik sinir bloğu, femoral sinir bloğu ile kombine edildiğinde, dizden itibaren alt ekstremitenin anestezisini sağlar. Bu çalışmada, varfarin kullanan olguda, anterior siyatik sinir bloğu denemesi sonrası uylukta meydana gelen hematom sunulmuştur. Tibia kırığı nedeniyle ameliyatı planlanan 58 yaşındaki kadın olgu, geçirilmiş aort kapak replasmanı ameliyatından dolayı varfarin kullanmaktaydı. Enoxaparin başlanıp, kanama parametreleri normale dönen olguya femoral ve siyatik blok yapılması planlandı. Önce femoral sinir bloğu gerçekleştirildi. Daha sonra anterior siyatik blok denendi. 2. denemeden sonra olgu yan çevrilerek posteriordan siyatik sinir bloğu yapıldı. Postoperatif 4. gün olgu taburcu edildi. Postoperatif 8. gün senkop geçiren olgu acil servise getirildiğinde uyluk proksimal ön-yan tarafında hematom mevcuttu. Bu nedenle, periferik blok yapılan hastaların postoperatif dönemde daha dikkatli ve uzun süre, hatta taburcu olduktan sonra bile aranarak kontrol edilmesi gerektiği kanısındayız.

**Anahtar Kelimeler:** Sinir bloğu; hematom; enoksaparin

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Complications of anterior sciatic nerve blocks are rare. Most anesthesiologist prefer posterior sciatic block techniques because anterior sciatic blocks are difficult to perform. With the anterior approach, the block can be performed with the patient in the supine position, and both sciatic and femoral blocks can be placed with the patient in the same position.<sup>1</sup> When combined with femoral nerve block, they provide anesthesia of the lower extremity from knee level below.

In this case report, hematoma secondary to anterior sciatic nerve block in a patient on warfarin was presented.

## CASE REPORT

A 58-yr-old female patient with open fracture of the tibia, was planned to undergo repositioning of internal fixation surgery. ASA class III, female patient (height and weight, 165 cm and 62 kg, respectively) had a history of anemia, subclinical hypothyroidism (FT<sub>3</sub>:1.80, FT<sub>4</sub>:1.55, TSH: 5.2\*) and hypertension. ECG showed signs of ischemia in the anterior leads. 6 years ago, patient had an abdominal aortic aneurysm (AAA) repair and aortic valve replacement (AVR) operation, and since then she had been using warfarin (Coumadin 5 mg). Patient was transfused one unit of packed red blood cells since preoperative hemoglobin was 8 mg/dL. Warfarin was stopped, and when INR was <2.5 low-molecular-weight heparin (LMWH) enoxaparin sodium (Clexane 4000 IU) once a day, was started for prophylaxis of thromboembolism. Because the patient had a medical history of AAA and AVR operations, she was under cardiology follow up, since then. In our preoperative consultation with cardiology department, they advised to raise the enoxaparin dose to 6000 IU, twice a day. Operation performed 6 days over warfarin break since her laboratory values come up normal as; hematocrit: 28.3%; platelets: 413.000/dL; prothrombin time (PT):11.8; INR: 1.03. Dose of enoxaparin on the morning of the operation was skipped.

In the operating room, patient monitored and the peripheral vascular access was obtained. Sedation was provided with midazolam 1 mg and fentanyl 50 µg. After cleaning the area with an antiseptic solution, local anesthetic was injected subcutaneously and peripheral nerve stimulator (HNS 11, B. Braun Medical Inc..) and a 50 mm needle (Stimuplex A-50, Inc. B. Braun Medical) used, femoral nerve block was performed with 15 mL 2% prilocaine and 15 mL of 0.5% bupivacaine (a single-injection). Then, anterior sciatic block was attempted using the method of Beck with 120 mm needle (Uniplex Nanoline, Pajunk). After second attempt, since the patient had been under anticoagulation therapy, anterior approach was aban-

doned in order to prevent more traumas. Meanwhile, we did not observe vascular injury during blood aspiration. Patient was turned on her side and posterior sciatic nerve block was performed with 10 mL of 0.5% bupivacaine and 10 mL of 2% prilocaine by the method of the Labat. After 20 minutes, when the block quality was adequate for surgery, the surgery was initiated. Peroperatively, there were not any abnormal or unpredictable hemorrhagic events to be noted. After a surgery lasting for 150 minutes, the patient was transferred to the service without any problems. Postoperatively, at 12<sup>th</sup> hour enoxaparin was started. Four days after surgery, the patient was discharged without any problems to cardiology outpatient clinic follow up.

After being discharged, patient continued to use the enoxaparin as recommended by cardiology clinic (15<sup>th</sup> day after initiation of enoxaparin use), and she was brought to the emergency room because of syncope on 8<sup>th</sup> postoperative day. Hemodynamic parameters of the patient were stable. Rigidity was observed at anterolateral side of the proximal femur. There was no neurological deficit. Hematoma with a size of 33x10 cm was displayed in the vastus muscles by ultrasonography. Hematocrit: 23.4%, platelets: 194.000/dL and PT and INR values were normal. She was followed by cardiology, and received 2 U packed of red blood cells and enoxaparin dose reduced by half. The patient was discharged one day after being internalized. One week follow up after discharge revealed healing without any problem and hematoma was much diminished.

## DISCUSSION

Anticoagulation presents a difficult decision for the physician considering nerve block injection. In the presence of anticoagulation, nerve blocks may lead to problematic bleeding.<sup>2</sup> Enoxaparin used in standard clinical doses does not alter conventional prothrombin time or partial thromboplastin times.<sup>3</sup> Therefore standard perioperative tests do not assess the extent of patient's anticoagulation.<sup>4</sup> For these drugs, bleeding complications rates are low. However, several days after surgery, in surgical incision hematoma incidence may increase.

The formation of hematomas after nerve blocks is well recognized. Vascular puncture are common during nerve blockade, but hematomas are infrequent and are usually harmless, although they may occasionally contribute to nerve damage.<sup>5</sup> The avoidance of vessel injury requires the use of needles no larger than 22 gauge. Insertion of the needle must be deliberate and gentle so as to penetrate vessels as few times as possible.

During the femoral and the anterior sciatic nerve block the vein puncture is not common. Usually, bleeding and hematoma do not cause nerve damage.<sup>6</sup> However, in the literature patients receiving enoxaparin were seen to experience hematoma more frequently after sciatic nerve block especially with catheter applications implementations.<sup>7</sup>

In our case, the although peripheral block was attempted 12 hours after the dose of enoxaparin, days after surgery, intramuscular hematoma developed. Absence of blood aspiration during testing of the anterior sciatic block, do not suggest a possible vascular puncture.

In addition, only two attempts had been made known to the patient's enoxaparin use and no vascular puncture was performed.

For postoperative period, orthopedic surgeons generally order warfarin before discharge, according to the patient's mobilization. And when INR value is between 2 and 2.5, they stop enoxaparin and continue with warfarin. However anticoagulation therapy of this patient had not been follow up by orthopedic surgeons but the cardiologists. After discontinuation of warfarin, enoxaparin was started at a higher dose than standard prophylactic dose and has been continued in the postoperative period for a long time. We think that; there may be more correlation and collaboration between orthopedic surgeons, orthopedic anesthesiologists and cardiologists in order to regulate enoxaparin usage.

In our case, we consider that this phenomenon was due to the use of enoxaparin for a long time, because her laboratory tests were normal and soon after the dose of enoxaparin reduced; the patient's hematoma diminished.

The early recognition and management of bleeding complications in patients treated with enoxaparin or other LMW heparins is of vital importance in avoidance of morbidity. In conclusion, the peripheral block patients receiving LMWH, should be controlled more carefully in the postoperative period and long term follow up should be obtained by recalling the patients after discharge.

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