Case Report

Recurrent deep venous thrombosis in an HIV-positive and injecting drug user woman

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Abstract

We report a case of recurrent deep venous thrombosis in a 44-year-old woman, intravenous drug user and HIV-infected, who injected cocaine in the groins and veins of the dorsum of the feet. She suffered several episodes of deep venous thrombosis and soft-tissue infections in the lower limbs. Images of Doppler ultrasound scan revealed thrombosis in the right popliteal vein with partial recanalization and calcified thrombi in the territory of the right femoral vein. After use of heparin and oral anticoagulation, her clinical evolution was uneventful, and she was asymptomatic at the occasion of the hospital discharge. This report calls for better awareness about injections in the groins and superficial femoral veins, which are part of the deep venous system. Thrombosis related to HIV infection is highlighted.

Key words: Antiretroviral treatment, HIV/AIDS, intravenous drug use, thrombosis

INTRODUCTION

Recurrent venous thromboses were described in an Indian patient with HIV-2 infection.¹ The incidence of vascular complications of injecting illicit drugs is growing due to the new kinds of drugs and diverse way of consumption. These facts have contributed to the increasing risk of venous thromboembolism.²⁻⁴ Moreover, patients with HIV/AIDS have more frequent episodes of deep venous thrombosis (DVT) than the general population.⁵ Preventive measures against venous thrombosis must involve a higher awareness about HIV/AIDS and the risks associated with intravenous drug use (IVDU).

Full anticoagulation can be used by HIV patients with DVT if prophylactic measures fail. We report a patient with IVDU and HIV/AIDS who developed recurrent venous thromboembolism associated with injections in vessels of lower limbs and groin regions.

CASE REPORT

A 44-year-old female was admitted because of an insidious edema in the right lower limb, associated with moderate local pain, with 2 days of evolution. She denied any antecedent of trauma and related that three similar episodes had occurred during the last 18 months. Her diagnosis of HIV-1 infection and AIDS was established in 2000, and she was in regular use of efavirenz (600 mg/day) plus lamivudine (150 mg/day) and zidovudine (600 mg/day). She was cigarette smoker (pack-year: 15) and has been in use of injecting cocaine for 12 years, in addition to smoke crack, marijuana, and paste of cocaine for about 6 years. Worthy of note, the illicit
drug has been injected in her lower limbs. The results of coagulation tests performed before the present admission were considered unremarkable. Admission examination showed body mass index (BMI): 19.4 kg/m², edema in the right leg, moderate pain on palpation of the right thigh and right calf, and an abscess in the dorsum of the right foot. The results of the blood determinations are shown in Table 1. Doppler ultrasound scan (USS) showed thrombosis with signs of recanalization in right popliteal vein [Figure 1a] and calcified thrombi in the right common femoral vein and in the superficial femoral vein [Figure 1b]. Her clinical evolution was uneventful following the administration of heparin and oral anticoagulation. She was asymptomatic at the occasion of the hospital discharge. Actually, she is under outpatient surveillance.

DISCUSSION

Although this middle-aged and IVDU woman had been under antiretroviral treatment and presented three events of DVT (2008, 2009, and 2010), thromboprophylaxis was not done. Her diagnosis of recurrent DVT was characterized by clinical data and comparative imaging studies by USS, and a full anticoagulation schedule was utilized with success. Complications related with IVDU may affect veins, arteries, and lymphatic vessels, including ischemia and pseudoaneurism due to intraarterial injection, vasculitis, artery dissection, arterial-venous fistulae, compartment syndrome, DVT, thromboflebitis, soft-tissue infections, bacteraemia, and sepsis.[2-4,6]

Recently, low serum levels of the C and S proteins and high levels of homocysteine were reported by Basavanagowdappa et al. in a 27-year-old Indian male with HIV infection and normal CD4.[7] Although the involved mechanisms are not entirely clear, HIV is an independent risk factor for venous thrombosis. The prothrombotic state observed in HIV-infected patients has been associated with antiphospholipid antibodies, aspartyl protease, endothelial and platelet activation, low levels of C and S proteins, and lupus anticoagulant.[5-7] In spite of controversies, the highly active antiretroviral therapy and protease inhibitors may cause thromboembolic events.[5] The risk of thrombosis can increase in patients with AIDS due to systemic inflammatory response and comorbidities such as immobility, infections, and malignancies.[4-7]

Cooke and Fletcher reviewed the data about DVT among 109 patients in England; 33 of the IVDU group and 76 of the non-IVDU group (median ages were 29 and 51 years, respectively).[1] Although the exact rate of recurrences could not be monitored, the recurrent DVTs were more frequent in patients from the IVDU group. One possible explanation was the shorter duration of anticoagulation to avoid hemorrhagic events in this group of patients.[2] Irish et al. reviewed data from the United Kingdom Department of Health about skin, soft tissue, and vascular complications among drug users and found a conspicuous increase in hospitalization. They emphasized the role of injections in femoral vessels (groin injecting), which may cause superficial phlebitis, DVT, and arterial pseudoaneurisms in lower limbs.[3] Similar phenomena were observed in the patient here reported. Saber et al. reviewed data of 45 patients in New York with HIV/AIDS and DVTs in the lower limbs and found recurrent episodes of thrombosis in 26.7% of the cases. The patient’s mean age was 43 years and 55.5% of the DVTs had caused femoral or iliofemoral obstructions.[8] The authors concluded that HIV/AIDS constitutes a main risk factor for DVTs in lower limbs,

Table 1: Blood determinations of a 44-year-old woman HIV positive and injecting drug user presenting recurrent venous thrombosis

| Parameters (normal range) | Results |
|--------------------------|---------|
| Hemoglobin (14-18 g/dl)   | 10.6    |
| Hematocrit (39-53%)       | 31.2    |
| Red blood cells (4.4-6.0 × 10¹²) | 3.2 |
| White blood cells (4.0-10 × 10⁹/l) | 5.5 |
| Neutrophils (54-62%)      | 44      |
| Platelets (125-400 × 10⁹/l) | 338 |
| Prothrombin activity (75-100%) | 100 |
| International normalized ratio (1.0-2.0) | 2.0 |
| D-dimer (<500 ng/l)       | 1,727   |
| Sodium (133-145 mmol/l)   | 136     |
| Potassium (3.5-4.2 mEq/L) | 4.0     |
| Calcium (2.16-2.60 mmol/l) | 2.14 |
| Erythrocyte sedimentation rate (≤20 mm/1st hour) | 41 |
| C-reactive protein (<3.0) | 0.5     |
| Urea (1.7-8.3 mmol/l)     | 5.0     |
| Creatinine (45-110 mmol/l) | 60 |
| Aspartate aminotransferase (≤39 U/l) | 42.3 |
| Alanine aminotransferase (≤42 U/l) | 48.3 |
and this condition occurs near 10 times more often than in general population.\textsuperscript{[8]}

**CONCLUSION**

Preventive measures against DVT should include higher awareness about the prothrombotic risks of HIV/AIDS and IVDU; subcutaneous, intramuscular, and groin injecting should be avoided by drug users; and accurate examination of the lower limbs must be routinely performed in all patients with antecedent of IVDU in primary care setting.

With limitations inherent to a single case study, this report may contribute to increase the awareness about the higher tendency to venous thromboses among drug users and HIV-infected individuals.

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