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CASE REPORT
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Early Deep Vein Thrombosis Triggered by Antipsychotic Dose Escalation and Physical Restraint in Schizophrenia

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Abstract

A 21-year-old female diagnosed with paranoid schizophrenia presented with unilateral lower limb swelling and was later diagnosed with deep vein thrombosis. The patient had a history of escalated antipsychotic treatment and physical restraint. This case represents the link between the development of thromboembolic events in psychiatric patients using antipsychotics and potential immobility due to physical restraint.

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Introduction

Antipsychotics constitute the first line treatment for schizophrenia and also for other primary psychotic disorders. Weight gain, hyperprolactinemia, extra pyramidal symptoms and sedation are few of the common side effects.[1-2] These side effects are common to both first generation as well as second generation antipsychotics.[1-3] Deep vein thrombosis is a rare as well as life threatening side effect seen with antipsychotics.[4-6] Many reports of the same have been reported in the first few months after initiation, and very rare have been reported within a few days of starting antipsychotics. In this case, we also highlight the effect of physical restraint combined with the use of antipsychotics in developing deep vein thrombosis.

Case

A 21-year-old female was diagnosed with paranoid schizophrenia approximately 4 years ago. The patient was admitted to the hospital for a brief period of [5-7] days and was later maintained on Tab Aripiprazole 15 mg/day. During the hospital stay, she was reportedly physically restrained. On reappearance of her symptoms due to non-compliance, the patient was taken to the same hospital, and the dose of aripiprazole was increased with the addition of benzodiazepines; however, no improvement was noted. The patient was then transferred to another hospital, where she was admitted and treated with risperidone 1 mg/ml twice a day, with intramuscular injection of lorazepam 2 mg at night. Haloperidol (5 mg)

was administered intramuscularly once daily due to agitation. Eventually, the patient was discharged on risperidone 4 mg/day in two divided doses, trihexyphenidyl 2 mg once a day, and lorazepam 2 mg at night. Eventually, the patient developed swelling in her left lower limb and also started to face difficulty in walking and occasional shortness of breath. A history of intermittent fever was also noted. The patient did not show any improvement in her psychiatric complaints. She then presented to our center with the complaints mentioned above. The patient was admitted to the psychiatry ward owing to complaints, and urgent surgery and internal medicine references were made.

Initial investigation showed hemoglobin of 10.6 g/dl with an increased WBC count of 18,300 and a low platelet count of 95,000. The liver profile was deranged with an increased SGOT of 162.4 and SGPT of 161.9. The patient's CPK-NAC level was also elevated to approximately 728.6. The patient was immediately shifted to the ICU because of increasing respiratory efforts, and a chest radiograph suggested pleural effusion. Surgery reference suggested an urgent venous Doppler, which suggested intraluminal echogenic content in the left common femoral vein, superficial femoral vein, deep femoral vein, and popliteal vein, extending in the proximal general saphenous vein (on the left side), showing no to minimal color flow on CFI, and appearing non-compressible. The PT-INR was 14.3/1.281.

After the diagnosis of deep vein thrombosis was established, the patient was treated with enoxaparin 0.6 mg subcutaneously twice a day. A cardiology referral was made to rule out pulmonary thromboembolism (PTE). The patient was referred to the respiratory medicine department for pleural effusion, and a diagnostic pleural tap was performed. The patient was also started on intravenous antibiotics due to fever and leukocytosis. The patient was treated in the intensive care unit for 3 days and subsequently transferred to the general ward after stabilization. Apixaban 10 mg twice a day and aripiprazole 10 mg twice a day were initiated.

The symptoms of deep vein thrombosis completely resolved, and the patient was on regular follow-up with both the psychiatry and medicine departments. Apixaban was gradually tapered, and the patient was maintained on aripiprazole 15 mg/day and benzodiazepines. No symptoms suggestive of a relapse of deep venous thrombosis were observed.

Discussion

After the antipsychotic properties of chlorpromazine were discovered, the association between antipsychotics and an increased risk of thromboembolism was recognized.[6] Many atypical antipsychotics are known to have a risk of deep vein thrombosis, of which clozapine has been known to have the highest risk.[7-8] While many other antipsychotics, such as olanzapine and risperidone, have been associated with the risk of venous thrombosis, the risk has been observed after a few months of initiation of therapy.[7-10]

Although the exact mechanism has not been established to date, the risk of weight gain, hyperprolactinemia, elevated platelet aggregation, elevated phospholipid antibodies, and elevated homocysteine levels are some of the reasons that might explain the nature of antipsychotic-induced venous thrombosis.[11] While there have been studies on long term management of antipsychotics induced thromboembolism, in a study done by Konnakkaparambil & George, deep vein thrombosis was diagnosed on the fourth day of risperidone treatment.[12]

In our patient. The risk of deep vein thrombosis was also linked to physical restraint of the patient, as this may exacerbate venous stasis, further increasing the thrombotic risk.[13]

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