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ATTENTION PLEASE!!! POSSIBLE RISK OF STROKE IN THE USE OF SILDENAFIL IN PEOPLE WITH COMORBIDITY OR BEHÇET DISEASE: A CASE REPORT

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ABSTRACT

Sildenafil is one of the most commonly prescribed drugs for male erectile function. Transient ischemic attack (TIA) and ischemic/hemorrhagic stroke cases with sexual activity have been reported after sildenafil intake. Here, we describe an ischemic cerebrovascular disease case with a history of hypertension (HT), diabetes mellitus (DM), Behçet's disease (BD) and who applied to the emergency department with the development of sudden vision loss after sildenafil use. The common use of sildenafil, especially in patients with comorbidities, should be kept in mind as it can lead to serious side effects. In patients with a history of cerebrovascular disease, questioning the use of the medication is crucial.

Keywords: sildenafil, cerebrovascular disease, Behçet's disease, hemiparesis, hypertension

LÜTFEN DİKKAT!!! KOMORBİDİTE VEYA BEHÇET HASTALIĞI OLAN KİŞİLERDE SİLDENAFİL KULLANIMINDA OLASI İNME RİSKİ: OLGU SUNUMU

ÖZET

Sildenafil erkek ereksiyon işlevi için en sık reçete edilen ilaçlardandır.Sildenafil alımı sonrasında cinsel aktivite ile birlikte geçici iskemik atak (GİA), iskemik/hemorajik inme olguları bildirilmiştir. Burada özgeçmişinde hipertansiyon (HT), diyabet (DM), Behçet hastalığı (BH) bulunan ve sildenafil kullanımı sonrasında ani görme kaybı gelişmesiyle acil servise başvuran bir iskemik serebrovasküler hastalık olgusu anlatılmaktadır. Sildenafil kullanımının yaygın olması ve özellikle komorbiditesi olan hastalarda ciddi yan etkilere sebep olabileceği akılda tutulmalıdır.
Serebrovasküler hastalık öyküsü ile gelen hastalarda ilaç kullanımının sorgulanması oldukça önemlidir.

Anahtar kelimeler: sildeneafil , serebrovasküler hastalık , Behçet hastalığı, hemiparezi, hipertansiyon

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INTRODUCTION

Sildenafil is one of the most commonly prescribed drugs for male erectile dysfunction. Some kinds of adverse reactions like headache, flushing, dyspepsia, nasal congestion, vision disturbances, etc., related to its vasodilatory properties. Transient ischemic attack (TIA) and ischemic/hemorrhagic stroke cases have been reported during sexual activity after sildenafil intake. Therefore, extra caution should be taken in the use of sildenafil in patients with a history of hypotension, arrhythmia, previous myocardial infarction (MI), or stroke, and it should be seriously questioned whether it is an indication or not.

Here, we report a case presenting with ischemic cerebrovascular disease and a history of comorbidity and Behçet's disease (BD) to draw attention to increasing the possible risk of stroke in the use of sildenafil in such cases.

CASE

A right-handed, married, 62-year-old male patient was admitted to the Emergency Department with a complaint of vision loss following the coitus after sildenafil intake. It was learned that the patient's complaints started about 3 hours before the examination. He had a history of smoking for 20 years, hypertension (HT), diabetes mellitus (DM), and BD. The patient had been receiving colchicine 0.5milligram(mg)/day peroral and corticosteroids 32mg/day peroral, oral antidiabetics (metformine 500mg/day peroral), a thiazide diuretic medication (hydrochlorothiazide 12.5mg/day peroral) and clopidogrel 75mg/day peroral drugs. There were scars in the pelvic region from ulcers due to the history of Behçet's disease in his physical examination and bilateral homonymous hemianopsia, and Babinski sign positivity on the right in his neurological examination. His blood pressure was 145/70 mmHg, his fingerstick blood glucose was 163 mg/dl, and his electrocardiography (ECG) was in normal sinus rhythm. Routine hemogram and biochemical blood tests were unremarkable except for elevated creatinine (1.71mg/dl) and glucose (201mg/dl) levels. No hemorrhage was detected in the cranial non-contrast computed tomography (CT) of the brain. Diffusion magnetic resonance imaging (MRI) showed hyperintense signal changes on diffusion-weighted images (DWI) and hypointense signal changes in apparent diffusion coefficient (ADC) sections in the parafalcine area of the bilateral occipital lobes (Figure 1). Intravenous (IV) thrombolytic (tPA) therapy at a dose of 0.9 mg/kg was administered to the patient with no contraindications for thrombolytic therapy, with the diagnosis of ischemic cerebrovascular disease. Although there was no improvement in the patient's vision after IV tPA in the follow-up, no deterioration was detected in the neurological examination. In his cardiological examinations, transthoracic echocardiography was evaluated as normal.

During the hospitalization, a 24-hour rhythm Holter ECG examination could not be performed, but it was found to be normal in the outpatient follow-ups. On Brain CT Angiography imaging from the arcus aorta, widespread atherosclerotic wall calcifications were reported in cavernous and supraclinoid segments of both internal carotid arteries and atherosclerotic plaques in the right vertebral artery and basilar artery. He was consulted to the Ophthalmology department. Previous uveitis findings were detected in his ophthalmic examination. There was no sign of active uveitis. To ensure diabetes regulation, he was consulted to the Endocrinology department. The patient, whose vital signs were stable and whose general condition was good during the (inpatient) follow-ups, was discharged with dual antiaggregant therapy (acetylsalicylic acid 100mg/day peroral and clopidogrel 75mg/day peroral), and outpatient control was recommended.

DISCUSSION

Sildenafil is a potent selective phosphodiesterase 5 (PDE5) inhibitor that increases cyclic guanosine monophosphate and nitric oxide in smooth muscles of the corpus callosum (1). Through this mechanism, muscle relaxation creates vasodilation that causes penile erection (2). It is a selective vasodilator that causes small reductions in systemic arterial pressure and moderate reductions in preload and afterload. It does not cause significant decreases in blood pressure even when administered with one or more standard antihypertensive agents. However, since PDE5 is also present in systemic vessels in small amounts, sildenafil may cause a synergistic and significant reduction in arterial pressure levels when used with organic nitrates (3). Our patient had been only receiving thiazide group antihypertensive treatment, thus'no hypotension was observed.

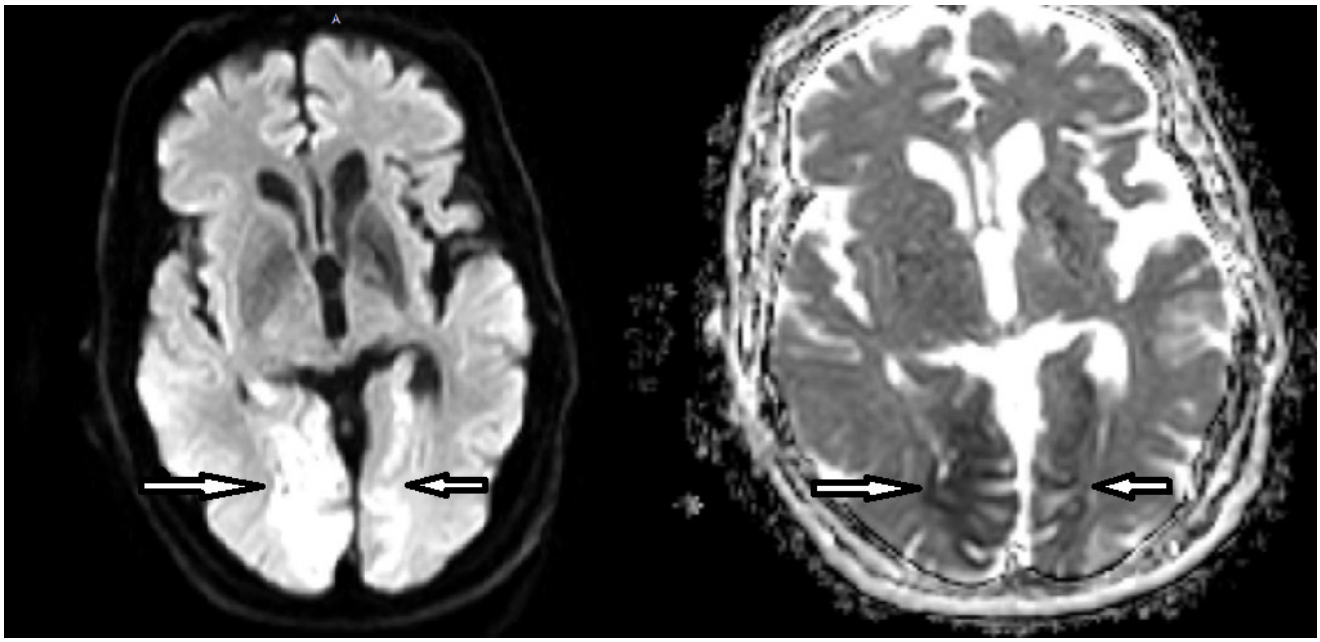

Figure 1

Sildenafil has several adverse effects, including nasal congestion, headache, flushing, and changes in pulmonary blood flow, showing us that the vasodilator effect is not limited to the corpus cavernosum. Cardiovascular adverse events reported with sildenafil use are typically minor and transient in normal healthy populations. However, sudden cardiac death, symptomatic non-fatal ventricular arrhythmia, acute MI, TIA and ischemic and hemorrhagic stroke are documented clinical manifestations in patients using sildenafil as an adjunct to sexual activity (4). There are also cases of sildenafil intake causing transient global amnesia and anterior ischemic optic neuropathy (5, 6). The causality remains unclear as to how it causes a TIA, stroke, and intracerebral hemorrhage (7). Although the exact mechanism has not yet been known precisely, there are hypotheses regarding the etiology of ischemia after sildenafil intake. Hypotension, cardioembolism, or hypercoagulability have been hypothesized to be responsible in a few reports

(4). Hypotension and atrial fibrillation are the relatively known side effects of sildenafil. Arrhythmias cases of WPW, atrial fibrillation, and continuous hypotension induced by the use of sildenafil have also been reported (8). Our patient's admission ECG was in normal sinus rhythm. Although a 24-hour Holter ECG could not be performed during the hospitalization, no arrhythmia attacks were observed in cardiac rhythm monitoring during the follow-up of the patient in the intensive care unit due to IV tPA administration. Another hypothesis of the stroke mechanism is the unidentified effect of Sildenafil on the blood vessels already damaged by other diseases such as HT and DM. In our case, the patient's blood pressure at admission was within normal limits, and besides age and gender, predisposing risk factors were smoking for 20 years, HT, DM, and BD. Therefore, in our case, especially with the accompanying predisposing factors, it can be assumed that stroke may have been triggered by the effect of PDE inhibitor use on the damaged blood vessels.

Considering the relationship between BD and stroke, BD is a multisystem inflammatory disease of unknown origin, which occurs with mucocutaneous, ocular, articular, vascular, gastrointestinal, and central nervous system symptoms. The cerebral infarction and cerebral vasculitis pattern represents a specific and rare form of neuro-Behçet manifestation. It has been mostly associated with venous thrombosis, and a few cases for ischemic stroke and cerebral vasculitis have been reported so far (9). Although cases of BD and sildenafil-related stroke are not found in the literature, one acute inferior MI case is associated with BD after sildenafil intake (10).

Therefore, it is possible that vascular damage secondary to BD may worsen by sildenafil intake, and result in ischaemic cerebrovascular disease. Sexual activity, effects of PDE5 inhibitors, drug interactions, underlying diseases, or unknown genetic abnormalities may all play a role in the onset of stroke. However, our case report suggests that, although rare, ischemic stroke on the background of loaded predisposition may be a possible adverse effect of PDE5 inhibitors prescribed for impotence.

In conclusion, it is thought that it would be appropriate to inform and warn potential users of the drugs belonging to this group, especially sildenafil, about the risk of stroke before prescribing them, especially if the patient has other risk factors.

Ethical Appoval

Ethics committee approval is not obtained for case reports. Informed consent: Written informed consent was obtained from the patient.

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