

CENTRAL RETINAL VEIN OCCLUSION AFTER SILDENAFIL CITRATE (VIAGRA) USE

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ABSTRACT

This is a report of a 31-year old male patient who presented with poor vision of his left eye of one-week duration after the use of two tablets of Sildenafil citrate (Viagra) approximately 24 hours before and 48 hours after the onset of ocular symptoms. Ocular examination was consistent with the diagnosis of central retinal vein occlusion. There was no history of systemic diseases or ocular risk factors for central retinal vein occlusion.

To the best of our knowledge, the young man, described here, is the first to be reported to have fulminant central retinal vein occlusion after Sildenafil use make this case worth reporting. This paper discusses the history, physical examination, and investigations done for the patient.

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Introduction

Sildenafil is used primarily for management of erectile dysfunction. Ocular side effects are uncommon, dosage dependent and thus far all have been fully reversible. These include changes in color and light perception, blurred vision, ERG changes, conjunctival hyperemia and hemorrhages, ocular, pain, photophobia and mydriasis. Some of these side effects were not proven to be drug related. Also ocular side effects are directly proportional to blood drug level, and usually starts at 15-30 minutes and usually peak one hour after ingestion of the drug. Drug half-life is 4 hours ⁽¹⁾. Anterior ischemic optic neuropathy ^(2,3), pupil-sparing third nerve palsy ⁽⁴⁾, and a number of retinal vascular events, such as retinal hemorrhages ⁽⁵⁾, branch vein occlusion ⁽⁵⁾, and branch retinal artery occlusion ⁽⁶⁾ have been also reported to be associated with Sildenafil use.

Case Report

This 31-year old man, newly married, had a history of psychological erectile dysfunction during the first three days of his marriage. For that reason, twice the patient took oral dose of Viagra, 50 mg, twenty-four hours before and 48 hours after the onset of the visual symptoms.

The patient presented with poor vision in the left eye of one-week duration. He is healthy and not known to

have any medical illnesses or ocular diseases. Ocular physical examination revealed that the vision of the right eye was 6/6 and of the left eye was hand movement. There was left relative afferent papillary defect. Fundus examination showed marked tortuosity and engorgement of the retinal veins, extensive retinal hemorrhages involving posterior pole and peripheral retina, severe optic disc edema and hyperemia. Ophthalmoscopy of the right eye revealed normal optic disc and normal retina. Intraocular pressure (IOP) measured by applanation tonometry was 12 mmHg. General physical examination did not reveal any systemic diseases and his blood pressure was 120/80 mmHg at presentation. He was reviewed two weeks later where fluorescein angiography (FA) and gonioscopy were done. FA showed central masking of the retinal vascular bed by extensive retinal hemorrhages and gonioscopy was normal. These investigations were repeated after two weeks. The same retinal changes were shown on FA. Gonioscopy revealed neovascularization at the edge of the pupil and the angle. Panretinal laser photocoagulation was not applied because of extensive retinal hemorrhages so retinocryotherapy was given instead. At that time, IOP was still normal. Two weeks later, the angle and the iris neovascularization progressed to involve the whole iris without increase of IOP. Two weeks later, IOP rose to 50 mmHg and the patient treated with antiglaucoma therapy, topical steroid, and cyclopentolate eye drops.

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FA at that time showed extensive areas of retinal capillary non-perfusion and the retinal hemorrhages decreased significantly so that PRP was given. Over five sessions, one per week, more than 5000 burns were given to the patient. Finally, the visual acuity of his left eye dropped to perception of light and the patient developed optic atrophy and advanced neovascular glaucoma as a result of fulminant central retinal vein occlusion (CRVO). We advised our Patient not to use Viagra again.

Laboratory Investigations

A variety of Investigations had been carried out. Full blood count showed: PCV 44%, ABCs, 7000 micro liter, platelets 334000 micro liter, ESR 15mm/hour, and CRP was 5mg/dl. Blood film was normal. FBS, Fasting Lipid profile, KFT, LFT were within normal limit. Serological studies for vasculitis were negative. Fibrinogen level was 4.0. Thrombosis screen for coagulopathy was negative. Serum protein electrophoresis was normal. PT was 13 seconds, PTT 35 seconds, and INR 1.0.

Discussion

Known risk factors for development of CRVO are old age, raised BP, raised IOP, diabetes mellitus, hyperlipidemia, chronic lung disease and elevated serum IgA levels⁽⁷⁾. Inherited thrombophilias are reported to be associated with vein occlusions, especially in the young and Middle Ages^(8,9). Some studies mentioned that there was no significant changes observed in mean blood pressure, IOP and perfusion pressure after Sildenafil treatment when compared to placebo⁽¹⁰⁾. Where as other studies reported a significant increase in ocular blood flow⁽¹¹⁾. Therefore it wouldn't be surprising to see an increased incidence of vascular ocular bleeds, i.e., subconjunctival or retinal hemorrhage secondary to sudden rise in ocular blood flow⁽⁵⁾. This is probably not a direct drug effect, but rather secondary to increase in BP and heart rate secondary to sexual arousal⁽⁵⁾. Our patient may have developed sudden rise in BP as a result of sexual arousal, which has lead to CRVO. Other cardiovascular events, including myocardial ischemia, arrhythmia, hypertension, hypotension, and transient ischemic attacks, have been also reported after Sildenafil use⁽¹²⁾.

It is still not clear whether these events are related to the drug itself or to other factors, such as extensive sexual activity and /or preexisting vascular diseases. Although the occurrence of fulminant CRVO with

complete loss of vision in our patient after Sildenafil use may be coincidental, but a possible association should not be overlooked.

Conclusion

The development of fulminant CRVO in a healthy young man without any history of systemic illness and with a history of Sildenafil use hours before onset of ocular symptoms may suggest a possible association of CRVO with Viagra.

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