Okmeydanı Tıp Dergisi 32(2):118-120, 2016
doi:10.5222/otd.2016.1051

Araştırma

Ocular Herpes Simplex Virus Activation Following High Dose Oral Fluoxetine Intake

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ABSTRACT

A 51-year-old man with high intraocular pressure on the left eye was referred to our clinic. A laser iridotomy was performed with full anti-glaucoma medication prior to the referral. There was a fixed dilated irregular pupil of the left eye, accompanied with mild corneal edema, a paracentral stromal corneal haze, patchy iris atrophy, fine keratic precipitates, trace amounts of cells and pigments in the anterior chamber and a patent iridotomy. Medical history was revealed a previous herpetic episode 7 years ago and fluoxetine use for major depression for 2 years which he overdosed 5 days before his ocular symptoms have started. Ocular herpes simplex virus activation associated with high dose fluoxetine was suspected. Fluoxetine was discontinued. Oral acyclovir, topical steroids and anti-glaucoma medication has been prescribed. A week later, on his control visit, the intraocular pressure was normalized and clinical findings have subsided. Fluoxetine, a selective serotonin re-uptake inhibitor, and some other anti-depressants, has been proved to suppress cellular immunity. Herpes simplex virus activation after surreptitious self-administration of high dose fluoxetine in this case is much more probable than coincidence. This is the first reported case of ocular herpes activation related to fluoxetine use.

Keywords: *ocular herpes simplex virus activation, fluoxetine, selective serotonin re-uptake inhibitor, SSRI, immunosuppresion*

ÖZ

Yüksek Doz Oral Fluoksetin Alımı Sonrası Gelişen Oküler Herpes Simpleks Virus Aktivasyonu

Elli bir yaşında erkek hasta, kliniğimize yüksek göz içi basıncı nedeniyle refere edilmiş. Öncesinde hastaya tam antiglokomatöz tedavi ve lazer iridotomi uygulanmış. Hastanın sol gözünde fikse dilate düzensiz pupilla ve eşlik eden hafif kornea ödemi, parasantral stromal korneal bulanıklık, yama şeklinde iris atrofisi, keratik presipitatlar, ön kamarada eser miktarda hücre ve pigment kümeleri ve açık iridotomi izlendi. Medikal öyküsünde 7 yıl önce geçirilmiş herpetik atak öyküsü belirlendi ve major depresyon nedeniyle 2 yıldır fluoksetin kullanan hastanın göz yakınmalarının başlamasından 5 gün öncesinde ilacı yüksek dozda aldığı belirlendi. Oküler herpes simpleks virus aktivasyonunun yüksek doz fluoksetin alımından olabileceğinden şüphelenildi. Fluoksetin kesildi. Oral asiklovir, topikal steroid ve anti-glokomatöz tedavi başlandı. Bir hafta sonra, hastanın kontrol muayenesinde göz içi basıncının normale geldiği ve klinik bulguların yatışmış olduğu izlendi. Fluoksetin, selektif serotonin geri alım inhibitörü olup, bazı diğer antidepresan ilaçlar gibi, hücresel immüniteyi baskıladığı kanıtlanmıştır. Bu olguda olduğu gibi hastanın gizlice yüksek doz fluoksetin alımı sonrası gelişen herpes simpleks virus aktivasyonu tesadüf olmasından daha olasıdır. Fluoksetin kullanımıyla ilişkili oküler herpes aktivasyonu olgusu ilk kez rapor edilmektedir.

Anahtar kelimeler: *oküler herpes simpleks virus aktivasyonu, fluoksetin, selektif serotonin geri alım inhibitörü, SSRI, immunsupresyon*

INTRODUCTION

Fluoxetine is a selective serotonin re-uptake inhibitor (SSRI) and is one of the most widely prescribed drug for major depression. SSRIs have become very popular anti-depressant drugs among psychiatrists owing to the fact that they offer effective therapies with relatively fewer side effects compared to the more traditional antidepressants [(1)]. SSRIs, however, have been shown to alter certain immune cell responses in animal models in several studies [(2)]. Previously published case reports have described herpes labialis&genitalis

Alındığı Tarih: 01.05.2015
Kabul Tarihi: 11.06.2015
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activation and cutaneous pseudolymphoma development following initiation of chronic fluoxetine therapy [3,4]. We report a case of ocular herpes simplex virus (HSV) activation due to surreptitious self-administration of high dose fluoxetine.

MATERIAL and METHOD

A 51-year-old male patient was referred to our clinic with a diagnosis of angle closure suspect in his left eye. A laser iridotomy was performed and he was given full anti-glaucoma medication prior to the referral. On his examination, corrected visual acuities were 6/6 in the right and 1/6 in the left eye. A fixed dilated irregular pupil, mild corneal edema, a paracentral stromal corneal haze, patchy iris atrophy, fine keratic precipitates, trace amounts of cells and pigments in the anterior chamber and a patent iridotomy was noted in the left eye (Figure 1). Intraocular pressure (IOP) was 11 mmHg in the right and 40 mmHg in the left eye. Significant papilledema and increased vascular tortuosity was found in the left eye reminding of impending central retinal vein occlusion due to high IOP (Figure 2). Examination of the right eye was unremarkable. His medical history revealed a previous ocular herpetic episode 7 years ago and he had been using 20 mg/day of fluoxetine for two years which he surreptitiously overdosed to 60 mg/day 5 days before his ocular symptoms have started.

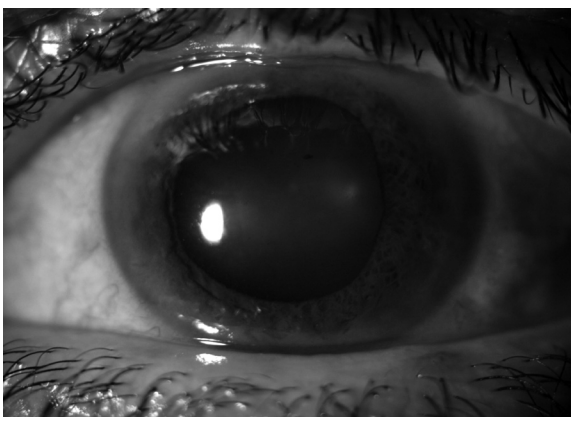

Figure 1. Anterior segment photography of our patient on presentation to our clinic, showing signs of a fixed dilated pupil, subtle signs of sectoral iris atrophy and a hazy central cornea suggestive of a previous herpetic attack

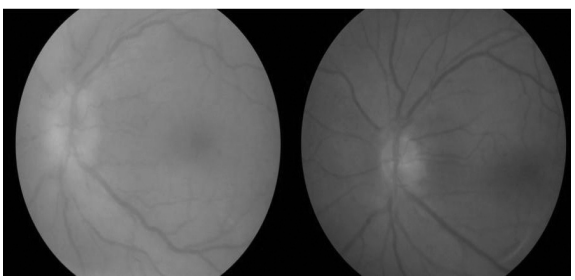

Figure 2. Posterior pole image of the patient at presentation (A) with signs of papilledema and tortuous vessels due to high intraocular pressure and 1 week after (B) the signs of the herpetic attack have subsided.

The patient was diagnosed of herpetic uveitis and fluoxetine was discontinued. He was given oral acyclovir, topical steroids and antiglaucoma medications. A week later, on his control visit, the IOP was 21 mmHg and clinical findings have subsided.

DISCUSSION

Because major depression is an illness associated with immune alterations of the host, it is difficult to anticipate the effect of anti-depressant drugs on immune function in an uncompromised system [2]. Several studies published in this field suggest a possible suppressive effect of fluoxetine on the immune system. Pellegrino and Bayer found a dose and time dependant decrease in cell-mediated immune responses after acute fluoxetine administration in rats [5]. The observation of Duncan et al. [6], suggesting an increased corticosterone secretion after acute fluoxetine challenge in rats might be related with cellmediated immunosuppresion. These effects were no longer observed following chronic fluoxetine administration in both studies. In vitro studies have also showed that SSRIs decrease splenic lymphocyte proliferation and decrease IFNɣ (Interferon ɣ) /IL-10 (Interleukin-10) ratio.2 These effects suggest a negative impact of fluoxetine on cellular immune responses, especially after acute administration. It is well known that suppression of non-HSV specific and anti-HSV specific cellular immune responses can predispose the host to severe HSV infection [7]. The acute change in the dosage of fluoxetine in this patient might have created a predisposition to ocular HSV activation.

This is the first reported ocular HSV activation related to fluoxetine use. Fluoxetine, and some other anti-depressants, has been proved to suppress cellular immunity in several in vivo and in vitro clinical studies. This relation is established by the fact that suppressive effects of fluoxetine were the result of elevations in endogenous serotonin levels follow-

ing reuptake inhibition. Freire-Garabal et al. [8] have demonstrated serotonin effects on immune function both in vivo and in vitro, offering the notion that serotonin is a signal molecule common to the brain and immune system. Herpes activation after surreptitious self-administration of high dose fluoxetine in this case is much more probable than coincidence. This case report highlights the importance of ocular herpes activation related to a selective serotonin reuptake inhibitor (SSRI) medication which may frequently be prescribed to uveitis patients by psychiatrists as chronic ocular diseases are commonly associated with depressive disorders. A diagnosis of ocular herpes activation from SSRI drugs should never be delayed, and should be possible with patient history and simple but basic eye examinations. Ophthalmologists should be cautious of medications which might trigger herpes activation in patients previously diagnosed of ocular herpetic disease.

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