Short communication

Intraoperative floppy iris syndrome after treatment with duloxetine: Coincidence, association, or causality?

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A B S T R A C T

Case report: The case is presented of a severe intraoperative floppy iris syndrome (IFIS) in a patient that had been treated with duloxetine.

Discussion: Tamsulosin is the main etiological agent involved in IFIS. However several cases of IFIS, supposedly secondary to drugs of different groups, have recently been reported in the literature. The authors use this case report as a means to discuss why most of these cases should be considered anecdotal evidence.

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Síndrome de iris flácido intraoperatorio tras tratamiento con duloxetina: ¿casualidad, asociación o causalidad?

R E S U M E N

Caso clínico: Se presenta un caso de síndrome de iris flácido intraoperatorio (IFIS) severo en una paciente que había recibido tratamiento con duloxetina.

Discusión: Aunque el agente etiológico principal es la tamsulosina, se han descrito casos de IFIS supuestamente secundarios a fármacos pertenecientes a diversos grupos

Palabras clave:
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Introduction

The intraoperative floppy iris syndrome was first described in 2005.1 In the initial article, Chang and Campbell coined the term, described the syndrome and identified tamsulosin as the main etiological agent.1 In subsequent years, a large number of publications have identified other potentially associated drugs. Some of these are related to tamsulosin as they also block the alpha-1-A adrenergic receptor and share indications and range with tamsulosin. However, other cases supposedly secondary to drugs belonging to a broad range of groups have been reported.

Clinic case

A 9-year-old patient was referred to our hospital for assessing cataract in the right eye (RE). The patient did not exhibit arterial hypertension or diabetes mellitus but suffered a depressive disorder which had been treated with 60 mg of duloxetine (Cymbalta®, Lilly USA, LLC, Indianapolis, IN, USA) during the past 3 years. In addition, she had been diagnosed with suspected primary angle closure (grade 1 of the Shaffer classification) and treated with peripheral iridotomies in both eyes. For several years she received treatment with timofot 0.5% which 17 months before the surgery was changed by travoprost (Travatan®, Alcon Labs, Fort Worth, TX, USA) with the purpose of improving intraocular pressure control.

The patient was dilated following the hospital protocol which comprises one drop of tropicamide (Colirucsi Tropicamida®, Alcon Labs), one drop of cyclopentolate (Colirucsi ciclopléjico®, Alcon Labs) and one drop of phenylephrine (Colirucsi fenilefrina®, Alcon Labs) every 15 min during 1h. Before the surgery the patient exhibited a pupil dilatation of 7 mm. However, shortly after performing 2 adequately valved corneal incisions the patient exhibited iris herniation through the main incision with sudden loss of pupil dilatation. After hydropdissection, 1.5% phenylephrine was injected in the chamber. This restored the initial mydriasis but was not able to control the tendency of the iris to prolapse through both incisions. After a highly complicated phacoemulsification, an intraocular lens of +24 diopters was injected (Microslim IOL®, Physiol, Liege, Belgium) in the capsular bag. The visual recovery of the patient was poor (post-surgery visual acuity [VA] after 3 months was of 0.3, identical to the presurgery VA), while the anterior segment exhibited the presence of a broad area of subincisional iridian atrophy (Fig. 1).

Discussion

Even though without a doubt tamsulosin is the main etiological agent, IFIS cases have also been reported in association with antipsychotic drugs (zuclopenthixol, risperidone, quetiapine, chlorpromazine), 5-alpha reductase inhibitors (finasteride), antidepressants (mianserin, imipramine) or even anticoagulants, vitamins and health shop remedies. The majority of said reports involve individual cases or small series.2-5

At this point in time the authors are unable to explain said potential association from the pharmacological viewpoint. Duloxetine is a serotonin recapturing inhibitor. This group of antidepressants inhibits the recapture of serotonin and norepinephrine, yielding a cocaine-like effect and increasing pupil diameter at rest.6 In fact, it has been reported that a molecule of this group (venlafaxine) is even able to unmask a Horner syndrome.7 In the patient presented herein, the anterior chamber was narrow and that could partially explain the appearance of the syndrome.

As IFIS was initially described as a pharmacological syndrome; when an unexpected IFIS condition appears the surgeon should always review the clinical history looking for a drug to blame. As patients submitted to cataract surgery usually are in a polymedicated age group, in almost every case a culprit drug can be found. However, some of these unexpected IFIS cases may well be idiopathic or have anatomic causes. The association of a thin and elastic iridian stroma with a narrow anterior chamber could explain many of these IFIS cases. Unfortunately, information on anterior chamber depth or chamber configuration is rarely provided in said reports. The authors believe that the majority of said cases should be considered as merely anecdotic evidence. In none of the cases causality can be attributed without providing a measure of association, and the only fulfilled causality criteria is that of temporal precedence. The...
authors consider that these IFIS cases should be reported but avoiding the use of “associated” in the descriptions thereof.

Conflict of interests

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REFERENCES


