Sildenafil in the Treatment of SSRI-Induced Sexual Dysfunction: A Pilot Study

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Background: Sexual dysfunction is a well-documented side effect of selective serotonin reuptake inhibitors (SSRIs). Commonly reported side effects include erectile impotence, anorgasmia, ejaculatory delay, pain, loss of sensation, and decreased pleasure. Early reports of the reversal of sexual dysfunction after using sildenafil in male and female patients receiving various types and dosages of SSRIs are promising and prompted this study. Our aim was to evaluate the effects of oral sildenafil on reported secondary sexual dysfunction in patients concurrently treated with SSRIs.

Method: Fourteen male patients who developed sexual dysfunction while receiving SSRIs were screened using the Arizona Sexual Experience (ASEX) scale. An electrocardiogram was obtained at the beginning and at the end of the study. Each patient was prescribed sildenafil tablets to be taken twice a week, 25–100 mg, prior to sexual activity and told to record the findings in a running diary which he was to keep during his treatment period. The patients were seen weekly and evaluated by clinical interview and ASEX scale. Patients were treated for a total of 8 weeks.

Results: All but 1 of the 14 patients experienced an improvement of sexual dysfunction, with 9 patients at the first dose of 25 mg and 4 at higher doses (3 at 50 mg and 1 at 75 mg). One patient required 100 mg to obtain minimal response.

Discussion: Sildenafil was shown to be helpful in the treatment of SSRI-induced sexual dysfunction. Three patients continued to experience ongoing positive effects after discontinuation of sildenafil; the other 10 patients relapsed.

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Sexual dysfunction is a well-documented side effect of selective serotonin reuptake inhibitors (SSRIs) whether used to treat depression, anxiety, panic disorder, or obsessive-compulsive disorder. The current widespread use of serotonergic agents in both primary and specialty practices has caused an increase in reports of sexual dysfunction. Commonly reported side effects include erectile impotence, anorgasmia, ejaculatory delay, pain, loss of sensation, and decreased pleasure. The effectiveness of sildenafil in treating sexual dysfunction caused by antidepressants was reported in 1998.[1–3] The reversal of sexual dysfunction after the use of sildenafil in male and female patients receiving various types and dosages of SSRIs was promising and prompted this study to evaluate the effects of oral sildenafil on reported secondary sexual dysfunction in patients concurrently treated with SSRIs.

METHOD

Fourteen consecutive male patients who developed sexual dysfunction while receiving SSRIs were screened using the Arizona Sexual Experience (ASEX) scale.[4] The ASEX is a 5-item scale with levels of severity from normal (1) to total absence (6), e.g., How easily are you sexually aroused? (1 = extremely easily and 6 = never aroused). None of the patients received a nitrate-based medication while on the study. An electrocardiogram (ECG) was obtained at the beginning and at the end of the study. Each patient was prescribed sildenafil tablets to be taken twice a week, 25–100 mg, prior to sexual activity and told to record the findings in a running diary which he was to keep during his treatment period. Each dose was to be taken 1 hour before expected sexual activity. The initial dose of 25 mg was titrated to a maximum of 100 mg for incomplete responders. The patients were seen weekly and evaluated by clinical interview and ASEX scale. Patients were treated for a total of 8 weeks. After withdrawal of sildenafil, patients were followed naturalistically, and relapse or sustained improvement was evaluated by history.

RESULTS

All but 1 of the patients experienced a decrease in sexual dysfunction, with 9 patients at the first dose of 25 mg and 4 at higher doses (3 at 50 mg and 1 at 75 mg). One

patient required 100 mg to obtain minimal response. ASEX scores dropped from a mean of 20 at baseline to 12 at end of treatment. Significantly, 5 patients reported an increase in libido. It was not possible to ascertain whether it was a direct effect of sildenafil or secondary to their improved ability to maintain erection. Ten patients maintained improvement over the 8-week period and relapsed on discontinuation of treatment with reversal to baseline. Three patients maintained sexual functioning 2 weeks after discontinuation of the medication. The side effects noted were mild headaches (1 patient), tachycardia (1 patient), and visual disturbances (1 patient), all of which resolved without treatment. There were no changes seen with ECGs.

Case Reports

Case 1. Mr. A, a 28-year-old single white man diagnosed with anxiety disorder, has a past history of drug and alcohol abuse. He denies current use and has very recently been discharged from a drug rehabilitation program. Mr. A has a long-standing history of delayed ejaculation secondary to drug use. He was started on paroxetine, 20 mg/day, 4 years ago. After several weeks of treatment, he described decreased libido with a further delay in ejaculation. He was offered a 25-mg dose of sildenafil and on the following visit described an increased libido along with a significant improvement in ejaculation after the first dose. Over the next several weeks, Mr. A reported continued improvement while on the medication and a return to pretreatment levels of dysfunction on discontinuation of sildenafil. ASEX scores were 19 (3,4,4,4,4) at screening and 11 (2,3,2,2,2) at week 8.

Case 2. Mr. B, a 51-year-old married Hispanic man diagnosed with depression, has been receiving paroxetine, 20 mg/day, over the last 6 months. He first reported side effects after several months of uninterrupted treatment. Although he obtained a good clinical response to his depressed mood and insomnia, he developed secondary impotence and decreased libido. Mr. B was started on 25 mg of sildenafil and reported no change after the first dose. On titration of his dose over the next few days, Mr. B saw a complete return of his libido at a dose of 75 mg and a reversal of impotence at a 100-mg dose. Over the next several weeks, Mr. B reported continued improvement while on the medication and a return to pretreatment levels of dysfunction on discontinuation of the sildenafil. No side effects were noted or reported. ASEX scores were 24 (5,5,5,4,5) at screening and 12 (3,2,2,3,2) at week 8.

Case 3. Mr. C, a 45-year-old single white man diagnosed with major depression, has a 10-year history of poorly controlled migraine headaches. He has maintained good control of his symptoms on sertraline, 50 mg/day, with no breakthrough symptoms during the 6-year course of his treatment. However, he expressed concern about his loss of libido and genital sensation. Mr. C was started on 25 mg of sildenafil with no effect on the first 2 doses. After the dose was increased to 50 mg, he reported an improvement in libido and a pleasant unexpected increase in erectile potential. He reported mild dose-related headache that lasted 30 minutes and resolved on its own without treatment. For this reason he was maintained on a 25-mg dose. Mr. C reported continued benefits from sildenafil 2 weeks after discontinuation. ASEX scores were 22 (4,4,5,4,5) at screening and 16 (3,3,4,3,3) at week 8.

Case 4. Mr. D, a 50-year-old single Hispanic man, has had complaints of anxiety and panic attacks for the past 10 years. He has no history of sexual dysfunction. After several courses of treatment, including paroxetine, he expressed concern over the onset of delayed ejaculation and anorgasmia. He was receiving sertraline, 100 mg/day, when he was referred to our clinic for evaluation of moderately severe erectile dysfunction and anorgasmia. Mr. D reported a complete reversal of anorgasmia at 50 mg of sildenafil. Over the next several weeks, he reported continued improvement while on the medication and a return to pretreatment levels of dysfunction on stopping the medication. ASEX scores were 16 (2,3,5,3,3) at screening and 11 (2,3,3,2,1) at week 8.

Case 5. Mr. E, a 66-year-old single Hispanic man, was diagnosed with a 30-year history of major depression. He was started on paroxetine, 20 mg/day, which resolved his depressive symptoms but caused an unexpected decrease in his previously high functioning sexual activity. He was given 25 mg of sildenafil, and on the follow-up visit he reported an improvement in his libido with a maximum effect seen at 50 mg. Over the next several weeks, Mr. E reported continued improvement while on the medication and a return to pretreatment levels of dysfunction on stopping the medication. No side effects were noted or reported. ASEX scores were 19 (2,3,5,4,5) at screening and 11 (2,2,2,3,2) at week 8.

Case 6. Mr. F, a 53-year-old married Hispanic man, has a chief complaint of panic attacks, which he reported benefited from sertraline, 25 mg/day. He experienced no noticeable side effects during his continuous 10-year treatment schedule. He again experienced panic attacks and fear of open places 5 years ago. His sertraline was increased to 50 mg/day with full control of symptoms. After several weeks at this higher dose, Mr. F complained of inhibited orgasm and delayed ejaculation. When he was seen at our clinic, an attempt was made to decrease his sertraline, but his panic attacks worsened. Mr. F received a 25-mg dose of sildenafil. At his next visit, Mr. F reported an increased ability to experience orgasm and a reduction in ejaculatory delay. Over the next several weeks, Mr. F reported continued improvement while taking sildenafil and a return to pretreatment levels of dysfunction on discontinuation of treatment. No side effects were noted or reported. ASEX scores were 19 (2,3,5,4,5) at screening and 10 (2,2,2,2,2) at week 8.

Case 7. Mr. G, a 35-year-old single Hispanic man, was diagnosed with a 9-year history of panic attacks. He was started on fluoxetine, 40 mg/day, and lorazepam, 2 mg/day, and reported elimination of panic attacks but new difficulties with delayed ejaculation. A reduction of Mr. G's fluoxetine dose to 20 mg/day allowed him some recovery of ejaculatory function, although significantly delayed. He refused to take yohimbine and was referred to our clinic. He was started on a 25-mg dose of sildenafil, and he reported an immediate reversal of ejaculatory delay and a return to normal functioning. He also complained of tachycardia with a dose as low as 25 mg. This lasted about 2 hours with spontaneous complete return of heart rate to pretreatment values without treatment. Over the next several weeks, Mr. G reported continued improvement while taking the sildenafil and a return to pretreatment levels of dysfunction on stopping the medication. ASEX scores were 22 (3,5,5,4,5) at screening and 12 (2,2,3,3,2) at week 8.

Case 8. Mr. H, a 42-year-old single white man, was diagnosed with a 7-year history of panic attacks and agoraphobia and treated with 150 mg/day of sertraline. He was able to have sexual intercourse and attain orgasm but only if he withheld his evening dose. He gave a history of multiple exacerbations and remissions over the course of his treatment, which he admitted was the result of his attempts to repeatedly decrease his own daily dose due to the sexual side effects. Mr. H was continued on 150 mg/day of sertraline and was given 25 mg of sildenafil. After the first dose, he noted an increase in sexual arousal and was able to maintain an erection. He continued to see improvement to a maximum dose of 50 mg of sildenafil. Sildenafil was discontinued at week 8 with the option of restarting if needed. Mr. H continued to report benefits of the medication at 2 weeks' time. ASEX scores were 19 (1,4,5,4,5) at screening and 12 (1,2,3,3,3) at week 8.

Case 9. Mr. I, a 35-year-old single Asian man, had a chief complaint of depression since 1992. He was started on fluoxetine, 20 mg/day. He began to have worsening of depressive symptoms 4 months prior to visiting our clinic. Soon after, he noted an abrupt decline in his libido and ability to ejaculate. He experienced no improvement on 25 mg of sildenafil. On increasing his dose to 50 mg, he reported improved libido and ejaculatory potential. Mr. I's medication was discontinued at week 8 due to complete reversal of sexual dysfunction, with the option of restarting medications if needed. Mr. I reported continued benefits from the medication at 2 weeks. ASEX scores were 13 (2,2,3,3,3) at screening and 8 (1,2,2,2,1) at week 8.

Case 10. Mr. J, a 23-year-old single white man diagnosed with depression, has been receiving paroxetine, 20 mg/day, for the last year with subsequent anorgasmia. His sexual dysfunction was minimally responsive to trials of sildenafil at successive doses of 25, 50, 75, and finally 100 mg. After a sixth 50-mg dose, Mr. J began to experience intermittent blue and orange visual effects that came on 10 minutes after dosing and resolved 3 hours later. Mr. J's medication was discontinued at week 8 in the study, after which he experienced full return of anorgasmia. ASEX scores were 21 (6,5,4,3,3) at screening and 16 (4,3,3,3,3) at week 8. While he did show some improvement, he was considered a nonresponder.

Case 11. Mr. K, a 55-year-old single Hispanic man diagnosed with depression, was started on fluoxetine, 20 mg/day, in 1996. A recent worsening of depressive symptoms prompted an increase to 40 mg/day. Unable to tolerate inhibited ejaculation, he was later switched to paroxetine, 20 mg, with no improvement in sexual dysfunction. He was given 25 mg of sildenafil, and on the return visit Mr. K reported an increase in ejaculatory potential with an increased sexual drive and improved orgasms. Over the next several weeks, Mr. K reported continued improvement while taking the medication and a return to pretreatment levels of dysfunction on stopping the medication. ASEX scores were 24 (5,4,5,5,5) at screening and 14 (3,3,3,3,2) at week 8.

Case 12. Mr. L, a 43-year-old single Hispanic man, had a diagnosis of depression with predominant symptoms of anhedonia, irritability, and insomnia. He was started on paroxetine, 20 mg/day, and noticed delayed ejaculation, but normal libido and normal orgasmic potential. He was given 25 mg of sildenafil and reported a complete reversal of ejaculatory delay. Over the next several weeks, Mr. L reported continued improvement while taking the medication and a return to pretreatment levels of dysfunction on stopping the medication. ASEX scores were 19 (2,3,5,5,4) at screening and 10 (2,2,2,2,2) at week 8.

Case 13. Mr. M, a 48-year-old single Hispanic man, was diagnosed with depression 4 years ago and treated with sertraline, 100 mg b.i.d. After several months of treatment with sertraline, he developed secondary impotence and decreased libido. He was started on a 25-mg dose of sildenafil and reported an increase in libido as well as reversal of impotence. He also reported maintaining an erection for longer periods of time and an increase in pleasure. He continued to experience benefit at 25 mg of sildenafil until the end of week 8 with a return to pretreatment levels of dysfunction on stopping the medication. Mr. M did not report any side effects. ASEX scores were 22 (5,4,5,4,4) at screening and 16 (4,3,3,3,3) at week 8.

Case 14. Mr. N, a 42-year-old married Hispanic man, was diagnosed with bipolar disorder 10 years ago. He was treated with paroxetine (at 20- and 40-mg/day dosages) and divalproex sodium for several years. Although the treatment worked well and resolved all his symptoms, he developed sexual dysfunction (decreased libido, erectile impotence). Mr. N was given 25 mg of sildenafil and re-

ported a noticeable change in sexual function. At a 50-mg dose of sildenafil, he reported an increase in libido, improvement in achieving and maintaining erection, and increase in pleasure. Mr. N continued to experience an overall increase in sexual function at 50 mg of sildenafil and a return to pretreatment levels of dysfunction on stopping the medication. ASEX scores were 22 (4,4,5,5,4) at screening and 10 (1,1,2,3,3) at week 8.

DISCUSSION

Sildenafil was shown to be helpful in the treatment of SSRI-induced anorgasmia, delayed ejaculation, and impotence. Three patients continued to experience ongoing positive effects after discontinuation of sildenafil; the other 10 patients relapsed. One patient was withdrawn because of side effects and lack of response. As this was an open study, the placebo effect cannot be evaluated, nor can the reported increased libido in 5 of the subjects.

Drug names: divalproex sodium (Depakote), fluoxetine (Prozac), lorazepam (Ativan and others), paroxetine (Paxil), sertraline (Zoloft), sildenafil (Viagra), yohimbine (Yocon and others).

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