

CASE REPORT

Intractable Erectile Dysfunction In A Depressed Elderly Man With Metabolic Syndrome on Multiple Medications: A Case Report

Nurul Hazwani Hatta¹, Ang Ai Ling², Hatta Sidi³

¹ Department of Psychiatry, Faculty of Medicine, Universiti Kebangsaan Malaysia, 56000 Cheras, Kuala Lumpur, Malaysia

² Department of Psychological Medicine, Faculty of Medicine and Health Sciences, Universiti Malaysia Sarawak, 94300 Kota Samarahan, Sarawak

³ Dean's Office, Faculty of Medicine, Universiti Kebangsaan Malaysia, 56000 Cheras, Kuala Lumpur, Malaysia

ABSTRACT

Erectile dysfunction (ED) is a common sexual dysfunction (SD) and is known as an indicator of early mortality. The recurrence and persistence of ED is a major therapeutic challenge among physicians worldwide. The mechanisms of ED are multifactorial with biopsychosocial factors playing a role in the mediation of the SD. We presented a case of a 55-year-old man with history of metabolic syndrome who suffered from persistent ED despite treatment with oral phosphodiesterase-5 inhibitors (PDE5i). He was also suffering from clinical depression besides having diabetes mellitus, hypertension, abdominal obesity, hyperuricemia, and dyslipidaemia. His ED persisted despite being on a medication and being normotensive with normal total cholesterol level and well-controlled blood sugar. There is most likely an association of the risk of ED with multiple medications, especially with the statin and the antidepressants, based on the patient's own validation. The therapeutic challenges are discussed in this report.

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Corresponding Author:

Ang Ai Ling, MD, DrPsych
Email: aaling@unimas.my
Tel: +6082-587490

INTRODUCTION

ED, defined by the inability to get and keep an erection firm enough for sex, has multiple aetiological factors, such as psychological disorders, psychiatric illness, degenerative vascular disease, metabolic disturbances, relationship disharmony due to marital discord, and side effects of medications (1,2). Although the existing PDE5i can produce beneficial effect by causing temporary vasodilatation to improve blood supply to the pelvic region which causes erection, they are not curative and their therapeutic effects are not permanent. PDE5i are also heavily dependent on sexual stimulation. Emerging new targeted interventions such as stem cell therapy, a novel treatment for the underlying metabolic syndrome like anti-diabetic medication, and low-intensity

extracorporeal shock wave therapy (LI-ESWT) are being used to achieve a more long-lasting effect in ED management and ED caused by diabetic complication. However, the advancement and application of more natural therapeutic methods are still in their infancy. The emergence of sodium-glucose cotransporter 2 (SGLT2) inhibitors, subcutaneous semaglutide (Ozempic), and other novel treatments for diabetes are pivotal to improving glycaemic control or lowering blood sugar levels.

Certain medications like antidepressants and antihypertensive agents have been shown to be associated with the development of ED (3). The development of ED, especially persistent ED which does not respond to oral PDE5i despite adequate sexual stimulation for the transmission of nitric oxide in the dopamine-oxytocin-nitric oxide neural pathway, can be embarrassing and depressing for the affected persons. The presence of co-morbid mental health disorders like clinical depression can pose further challenges in ED

treatment. Co-morbid depression and the side effects of antidepressant treatment may complicate the treatment strategy for intractable ED. In this report, we highlighted the complexity related to the treatment of intractable ED, which can be due to multiple biopsychosocial interactions that warrant the examination of a novel solution to this ongoing problem.

CASE REPORT

A 55-year-old male engineer with history of diabetes mellitus and metabolic syndrome, i.e., hypertension, dyslipidaemia, and obesity (Body mass index (BMI) of 34), developed persistent ED more than 10 years ago. When he first visited a physician, he was diagnosed with uncontrolled diabetes mellitus with metabolic syndrome, namely hypertension and dyslipidaemia, and also hyperuricemia. During his first visit, his glycated haemoglobin (HbA1c) level was 9.8%, his blood pressure was 145/90 mmHg, and his total cholesterol level was 6.8 mmol/L. He was prescribed multiple pharmacological agents to treat his diabetes mellitus and metabolic syndrome: Glucophage 850 mg BD, Amlodipine 5 mg OD, and Simvastatin 20mg nocte. After the medications were started, he felt better physically; less lethargic, more energetic, and less polydipsia and polyuria. He also had less frequent headaches as his blood pressure was normotensive. During this time, despite good results on his blood profiles, he experienced persistent ED. He denied any history of premature ejaculation. He tried to take oral PDE5i such as sildenafil 100 mg or tadalafil 20 mg on PRN basis with a mild to moderate improvement in maintaining adequate erection for sexual intercourse. However, most of the time, from last year onwards, his erection was poorly maintained for satisfactory sexual intercourse. This situation has an ongoing effect on his marriage as his wife expressed extreme sexual dissatisfaction with his performance.

Around the end of 2023, he had a fall due to a slippery trail while hiking and sustained a few laceration wounds over his left leg. His wounds were not healing well. He visited his physician and found that his HbA1c level was not normal, i.e., 7.9% despite being on Glucophage treatment. He consulted another physician, and he was advised to change his medication. Since then, he was changed to the following medications; Xigduo XR (Dapagliflozin 10 mg with a combination of Glucophage 2000 mg) oral daily, subcutaneous Ozempic 0.25, 0.5, and 1.0 mg in gradual titration weekly, Atorvastatin 10

mg daily, and Zyloric 300mg daily.

According to his wife, he claimed that his ED worsened when he was regularly on Atorvastatin and subcutaneous Ozempic treatment. He developed symptoms of major depression such as low mood, lack of enjoyment, and insomnia. During consultation with a psychiatrist referred by his physician, he was started on Escitalopram 10 mg OD, a selective serotonin reuptake inhibitor (SSRI). He claimed that his sexual desire became less with the SSRI treatment, complicating the inability to sustain an erection more. His ED had caused marital disharmony, and his wife was complaining that he was taking “too many pills” to treat his medical illness. On another aspect, with the new medications, his HbA1c was reduced to 6.1% and his BMI was reduced from 34 to 28. He felt more energetic and healthier despite having an intractable ED. At the current moment, he did not seek any psychological intervention or therapy for his clinical depression and marital disharmony.

DISCUSSION

The mechanisms of ED are multifactorial with biopsychosocial factors playing a role in the mediation of the sexual dysfunction (1,2,3). We presented a case of a 55-year-old man with history of chronic diabetes mellitus, hyperuricemia, and metabolic syndrome, i.e., hypertension, dyslipidaemia, and obesity, who suffered from persistent ED despite treatment with phosphodiesterase-5 inhibitors. His HbA1c level gradually improved from 9.8% to 6.1% on medication. Despite being normotensive with improved total cholesterol level and good blood sugar control, his ED persisted. As a result of the ED, he developed clinical depression which warranted treatment with an antidepressant. His ED had caused marital harmony. He felt sad as every time he wanted to have sex, he had to take “additional pills” to treat his sexual difficulties. Psychological therapy like individual psychotherapy and marital therapy can help address his marital and sexual problems. Since the patient is on multiple medications including sodium-glucose cotransporter 2 inhibitor (SGLT2), subcutaneous Ozempic weekly, Atorvastatin, Zyloric, and serotonin-selective reuptake inhibitors (SSRI), there is a need to revise his medications and promote a healthy lifestyle to improve his ED. Further research in this area would be pivotal to understand these dynamics. The relationship between the ED and other possible relationships that may exacerbate his SD is depicted in Figure 1.

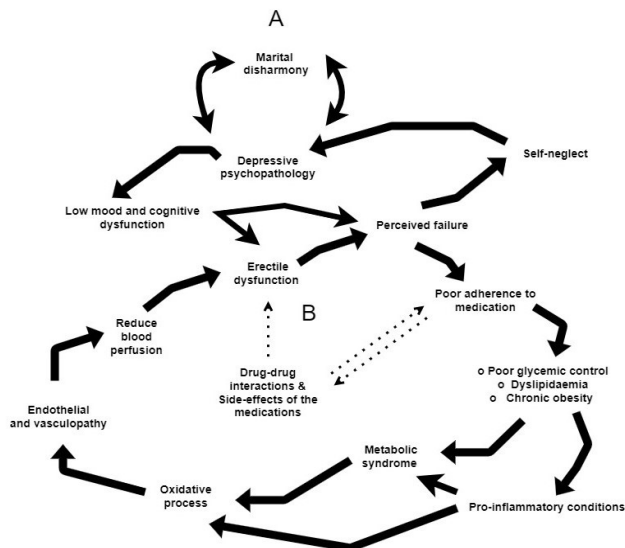


Figure 1: The possible relationships that may exacerbate the patient's SD. A = A cycle involving the relationship between the patient and his wife which may be worsening his ED. The partner's reaction such as anger and frustration may exacerbate his SD. Partner's SD may also affect the patient's ED. B = A cycle that intermediates between the multiple domains that may impair his erection, e.g., drug-drug interactions, side effects of the medications, especially the statin and SSRI, among others. For B, it has been shown that medication used in the treatment of metabolic syndrome like statin may lead to ED as a side effect (4). Treatment with Ozempic may also lead to ED due to the direct side effect of semaglutide on the sexual pleasure area of the dopaminergic system (5), which may affect the hedonic center for both sexual pleasure and craving for food. Psychotherapy such as individual and cognitive therapy for the patient and marital therapy for the couple could be offered for a holistic approach to treatment.

CONCLUSION

In the case report, we could understand the case better from the perspective of biopsychosocial interaction that led to the ED in this man. The presence of psychological factors like cognitive dysfunction related to sexual dysfunction or sexual performance and multiple side effects of drugs may be worsening the existing ED.

Therapy focusing on the relationship issues and revision of the medications for his metabolic syndrome and depressive illness may be pivotal in helping this man deal with his sexual problems.

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