A community pharmacist’s intervention in antipsychotic drug-induced sexual dysfunction in a patient with schizophrenia

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Abstract

Sexual dysfunction (SD) is a common side effect of antipsychotics. The community pharmacist assessed a patient with SD and suggested a change in prescription from risperidone and haloperidol to aripiprazole that improved SD. This is the first report on amelioration of antipsychotic-induced SD by early intervention by community pharmacists.

Case report

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Case report

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Summary

What is known and objective: Sexual dysfunction (SD) is a common side effect of antipsychotics. We report a case of schizophrenia wherein SD ameliorated after community pharmacist’s intervention.

Case summary: A 60-year-old Japanese man with schizophrenia stabilized after receiving risperidone, haloperidol, and antidiabetic drugs. However, he complained of SD to a community pharmacist in our pharmacy. The pharmacist interviewed his SD and suggested a change in prescription from risperidone and haloperidol to aripiprazole that improved his SD.
What is new and Conclusion: This is the first report on amelioration of antipsychotic-induced SD by early intervention by community pharmacists.

Keywords: Antipsychotic drugs, community pharmacy, sexual dysfunction

Key Clinical Message: The community pharmacist interviewed a patient with SD and suggested a change in prescription. Early intervention by community pharmacists thereby helps ameliorate antipsychotic drug-induced SD in a timely manner.

WHAT IS KNOWN AND OBJECTIVE

Sexual dysfunction (SD) is known to be a side effect of antipsychotic drugs, and the prevalence of SD has been reported to be 30%–80% in women and 45%–80% in men. A previous study has shown that SD is worse in men than in women. There are several types of symptoms of SD, including problems with sexual arousal, penile erection, orgasms, and ejaculation. SD was also reported to be one of the risk factors for decreased medication compliance; in fact, 41% of men receiving antipsychotics stopped taking their medications due to SD. Furthermore, SD is also related to poor relationships with partners as well as negative effects on social and personal life. Therefore, improvement of sexual behaviour in patients may lead to a restored sense of well-being, confidence, and dignity.

However, both patients and clinicians tend to avoid discussions regarding sexual function, even though patients with treatment-resistant schizophrenia have SD. In addition, clinicians are likely to underestimate the prevalence of SD that is closely associated with a patient’s quality of life. Therefore, early intervention by pharmacists may play an important role in the detection and treatment of SD induced by antipsychotic drugs. Here, we report the case of a 60-year-old man with schizophrenia whose SD was ameliorated after intervention by a pharmacist in our community pharmacy.

DETAILS OF THE CASE

A 60-year-old Japanese man with schizophrenia stabilized after taking risperidone (4.5 mg/day) and haloperidol (3 mg/day). He also received anti-diabetic drugs such as metformin (750 mg/day), gliclazide (20 mg/day), and alogliptin (25 mg/day). One day, in our community pharmacy, he complained to the community pharmacist about his SD, including problems with erections, orgasm and satisfying orgasms. He was already taking sildenafil, a drug to treat erectile dysfunction, but it had no effect on his SD. Thus, the pharmacist interviewed his symptoms of SD. He had the following problems: erection with difficulty, never reached an orgasm and any satisfying orgasms. Therefore, the pharmacist immediately reported these symptoms to his prescribing doctor and recommended a reduction in the doses of risperidone and/or haloperidol because these drugs may be responsible for the induction of SD. Additionally, the pharmacist suggested switching from these drugs to aripiprazole that may have fewer SD-related side effects among antipsychotic drugs.

Following the pharmacist’s suggestion, the doctor started prescribing 24 mg/day aripiprazole (Day 0) (Fig.1), while the doses of risperidone and haloperidol did not change. As expected, his SD symptoms did not improve 14 days after the administration of aripiprazole. The dose of risperidone was then reduced from 4.5 mg to 3 mg/day (Day 14). Three weeks after a reduction in the dose of risperidone, his SD symptoms still did not improve. Thus, the dose of haloperidol was reduced from 3 mg to 1.5 mg/day (Day 35). Three days after the reduction in the dose of haloperidol, he engaged in sexual activity and acknowledged an orgasm and any satisfying orgasms. Furthermore, 22 days after the reduction of haloperidol dose, his SD symptoms had more alleviated in terms of erection, orgasms and satisfying orgasms with somewhat difficulty (Day 38). However, he complained to the community pharmacist about new symptoms such as ejaculatory dysfunction. Thus, the pharmacist suggested to the doctor to further reduce the doses of risperidone and/or haloperidol. The doctor decided to entirely stop the use of haloperidol (Day 63), but his symptoms of ejaculatory dysfunction did not improve 28 days after stopping the administration of haloperidol (Day 91). Alternately, the dose of risperidone was tapered and eventually withdrawn (Day 147). About three weeks after the withdrawal of risperidone, his ejaculatory disorder substantially improved (Day 168). No alteration of his symptoms of schizophrenia and
Diabetes was observed during the process of adding aripiprazole to haloperidol and risperidone.

**DISCUSSION**

Previous studies reported that a patient’s SD is associated not only with side effects from the medication but also from several types of diseases, such as psychiatric disease, diabetes, and cardiovascular disease. Since the patient in the present case suffered from both schizophrenia and diabetes, it is possible that these diseases have contributed in part to the induction of SD. However, the patient’s SD improved upon switching from haloperidol and risperidone to aripiprazole without any exacerbation of schizophrenia and diabetes, indicating that his SD was caused mainly by haloperidol and/or risperidone.

The mechanism of SD induced by antipsychotic drugs remains unclear, but it is generally accepted that the blockade of monoaminergic receptors such as dopamine may induce SD. For instance, dopamine receptor blockade leads to decreased libido, erection, and ejaculation, due to a dysfunctional reward and motivation system. In addition, hyperprolactinemia due to dopamine receptor antagonism has also been associated with the induction of sexual dysfunction. In fact, both haloperidol and risperidone, which induce hyperprolactinemia, have been shown to increase the risk of SD as compared with other antipsychotic drugs. In particular, 71.1% of patients receiving haloperidol over 12 months had SD. Furthermore, 67.8% of patients taking risperidone for over one year also complained regarding the symptoms of SD, such as reduced libido, erection dysfunctions, and amenorrhea. On the other hand, aripiprazole, which is classified as a prolactin-sparing drug, has been reported to impart a lower risk of SD than other prolactin-sparing antipsychotic drugs. As in the present report, a previous study showed that switching from other antipsychotic drugs to aripiprazole resulted in improved levels of prolactin and the amelioration of SD without affecting efficacy. These results suggest that prolactin levels are closely correlated with the induction of SD.

The present report also showed that the ejaculatory dysfunction of patients dramatically reduced after the withdrawal of risperidone. Previous case reports indicated that risperidone caused ejaculatory disorder, possibly through its adrenaline receptor antagonism. These results suggest that blockage of the adrenaline receptor by antipsychotic drugs may be partially responsible for the induction of ejaculation disorder.

There is no previous report showing a community pharmacist’s intervention in antipsychotic drug-induced SD in a patient with schizophrenia. It is difficult for clinicians to assess all symptoms of the patient’s SD during medical examination. The present report showed that the patient taking antipsychotic drugs complained of SD only to the community pharmacist who interviewed the patient’s symptoms of SD in detail, reported them to the patient’s prescribing doctor, and recommended a change in prescription, resulting in dramatically alleviated symptoms of SD. These results demonstrated the importance a community pharmacist’s intervention between the clinician and patient in maintaining the appropriate medication and drug compliance in patients receiving antipsychotic drugs.

**WHAT IS NEW AND CONCLUSION**

This is the first report of an appropriate intervention by a community pharmacist to help ameliorate antipsychotic drug-induced SD in patients with schizophrenia.

**Author contribution**

Masaki Maehara and Sugiyama Masayasu: We contributed equally to this work.

**Funding statement**

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**Conflict of interest disclosure**

We have no conflict of interests.
Patient consent statement
We obtained written informed consent from the patient for publication of this case report.

Acknowledgment
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Ethical approval statement
None

Reference
2. de Boer MK, Castelein S, Wiersma D, Schoevers RA, Knegtering H. The facts about sexual (Dys)function in schizophrenia: an overview of clinically relevant findings. Schizophr Bull 2015;41:674-86.

List of Figure caption/legend
Figure 1 Medication schedule in this case report

Figure legend
Patient was started on aripiprazole on day 0. The dose of risperidone was reduced from 4.5mg to 3mg/day on day 14. The dose of haloperidol was reduced from 3mg to 1.5mg on day 35. The dose of haloperidol and risperidone was withdrawn on day 63, and day 147, respectively.