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Dose Dependent Priapism Induced by Amisulpride Use

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To the Editor:

Priapism, an uncommon urological emergency, is a pathological, prolonged and painful penile erection, usually unassociated with sexual desire or intercourse[1]. Drug-induced priapism comprises about 30% of the cases and it's estimated 50% of them occurred with antipsychotic agents[2]. Although typical antipsychotics are often associated with priapism, there are some case reports with clozapine, risperidone, olanzapine, quetiapine, and aripiprazole[3]. Here, we present a case report of dose dependent priapism due to 800 mg/day of amisulpiride.

26 year-old- male patient was admitted to our inpatient clinic with disorganized speech and behavior, and persecutory delusions and was diagnosed as schizophrenia. He was on amisulpiride 200 mg/day treatment for one year. His previous treatments were flupentixol depot, olanzapine, risperidone, and chlorpromazine. He was switched to amisulpiride 1 year ago due to side effect of weight gain. The patient's physical and neurological examinations, urine-blood drug and substance screening, and labaratory tests were normal. Increasing the dose of Amisulpride 200/ mg per week, a dose of 800 mg/day was attained. In the first day of using 800 mg amisulpride, patient reported to have involuntary, painful erection which lasted about 6 hours. Urology consultation was requested and the urology specialist ruled out other causes and reported that priapism was probably due to amisulpride use. Urology consultant did not mention any other medical condition for priapism. So amisulpride treatment was stopped. We did not observe priapism for 3 days after stopping medication. As we knew that previously, patient was clinically stable with 600 mg/day of amisulpride, we decided to initate amisulpride again. We started at 400 mg/ day dose and increased to 600 mg/day after 3 days. We did not observe priapism with 600 mg/day. This time, we decided not to increase Amisulpride dose to 800 mg/day.

Priapism may occur due to several reasons such as physical obstruction of the venous system, blood dyscrasia, sickle cell anemia, slowdown in the venous flow, and α-1 adrenergic receptor blockage[1]. In this case, the urology sopecialist ruled out other medical conditions except for α-1 adrenergic receptor blockage. It is suggested that α-1 receptor blockage is important for priapism which occurs with antipsychotics use. Amisulpride is a benzamide which has high affinity for presynaptic dopamine D1 and D2 receptor subtypes but has extremely low affinity to adrenergic, histaminergic, and serotonergic receptors[4,5]. In some cases hypersensitivity of alpha adrenergic receptors may cause priapism, even after use of drugs with lower affinity to α-adrenergic receptors. To date, there is no case report about priapism with amisulpride monotherapy. In this case, despite the low affinity to α-adrenergic receptor, we think amisulpride caused dose dependent priapism for two reasons. First, amisulpride was the only causal condition related with priapism. It occured 1 day after increasing the dose to 800 mg/day and discontinuation of amisulpride resulted in dissolution of priapism. We did not observe

priapism again with 600 mg/day. Second, although amisulpride has low affinity to alpha adrenergic receptor, it could be hypersensitivity of receptors that caused priapism. For this reason, before and after the initiation of antipsychotic medication, questioning patient about sexual side effects of drug and paying attention to dose dependent side effects are important to manage psychiatric disorders.

Keywords: *amisulpride, priapism, antipsychotic, sexual side effect*

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