Priapism as a Possible Side Effect of Risperidone: Case Report and Literature Review

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Background:
Priapism is a medical emergency that consists of a persistent penile erection that continues hours beyond, or is unrelated to sexual stimulation [1]. It is a relatively rare entity, with reported incidences between 0.3 and 1.5 per 100,000 men per year reported in the literature [2,3]. Severe manifestations can lead to penile ischemia and potential permanent penile damage. There are a large number of potential causes of priapism, and 30 to 50% of cases are deemed idiopathic [2-5]. The classically cited psychopharmacological agent associated with priapism is trazodone, whereas reports of priapism caused by antipsychotics are much more limited [3-7]. One mechanism thought to be associated with priapism is α1 and α2 blockade, which is associated with arteriolar dilation and the release of a nitric oxide like substance, respectively [8]. Of psychotropic medication, risperidone is known to have a relatively high affinity at the α1 receptor [9].

Case Report:
Here we report a case of a young man in his early 20s who experienced priapism after taking risperidone. He was admitted to hospital after a serious suicide attempt with no previous psychiatric or medical history. He was admitted to ICU, and then transferred to an inpatient psychiatric unit at an academic hospital in Vancouver, Canada. At the time of transfer, he exhibited profound neurovegetative symptoms, and was diagnosed with severe Major Depressive Disorder. There was no history of substance use, nor was there an maladaptive personality structure. In hospital he was started on escitalopram, and titrated up to 20 mg daily, to which he showed a positive response, so risperidone 0.5 mg was added as an adjunctive strategy. The next day it was increased to 1 mg. After three days of risperidone 1 mg he experienced priapism, and urology was consulted. He was deemed to require intervention, however as the urology team was beginning to intervene, he experienced a vasovagal episode, which resolved the priapism. In discussion with the urology service, the addition of risperidone was felt to be the likely causative agent. Risperidone was discontinued, and an adverse drug reaction report was filed with Health Canada. A Lexicomp search did not yield any significant CYP450 interaction between risperidone and substance, respectively [8]. Of psychotropic medication, risperidone is known to have a relatively high affinity at the α1 receptor [9].

Conclusion:
In conclusion, priapism may be a possible rare side effect of risperidone. We were able to identify 39 cases reported in the literature. Additionally, risperidone’s relatively high affinity at the α1 receptor lends biological plausibility to this potential side effect. A significant limitation of this potential relationship is the high (30-50%) proportion of cases of priapism deemed idiopathic, making the possibility the 39 cases were chance occurrences difficult to exclude.

References


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