

Irreversible priapism during treatment with olanzapine and topiramate

Priapismo irreversibile durante terapia con olanzapina e topiramato

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Key words

Priapism • Olanzapine • Topiramate

Introduction

Priapism is a prolonged and painful penile erection unrelated to sexual desires or stimuli. The cause of priapism is not yet fully understood. Many drugs are associated with priapism, and there are cases reported to be induced by conventional and atypical antipsychotics¹⁻³. Few data exist about the association between priapism and mood stabilizer therapy^{4,5}.

The case of a 22-year-old male who developed priapism during treatment with olanzapine and topiramate is presented.

Case report

Mr A is a 22-year-old male affected by profound mental retardation associated with chronic hallucinations who was diagnosed, during infancy, with autistic disorder. At the age of 16 years, he was prescribed risperidone 2 mg/day. At 18 years, for exacerbation symptoms (autoleisionism and impulsiveness), risperidone was suspended and replaced by olanzapine 15 mg/day. One year later, topiramate 300 mg/day was added.

Priapism did not occur with risperidone. Repeated and prolonged erections, that regressed spontaneously in 2-3 hours, were observed with olanzapine from the beginning of the therapy and were not modified by the introduction of topiramate. Mr A was taking no drugs other than olanzapine and topiramate, reported no history of general medical conditions, perineal trauma, or substance abuse. These erections became more painful and prolonged until Mr A was taken to emergency room with irreversible priapism. Intracavernosal phenylephrine irri-

gation was performed, with partial reduction of tumescence, and subsequently surgical detumescence was performed by evacuating blood from the corpora cavernosa. Olanzapine and topiramate were discontinued and Mr A was given quetiapine initiated at 25 mg/day that was gradually increased to 300 mg/day. This treatment did not induce priapism. After 6 months, Mr A had developed persistent erectile dysfunction and penile fibrosis.

Discussion

Olanzapine is an atypical antipsychotic with a broad multi-receptor profile; above all, its α -adrenergic blocking and anticholinergic properties has been implicated in priapism. Topiramate is an anticonvulsant that is also used as a mood stabilizer and, to our knowledge, has never been implicated in a case of priapism. However, acidosis induced by topiramate, through inhibition of carbonic anhydrase, could stimulate production of nitric oxide with subsequent smooth muscle dilatation of afferent arterioles and the corpora cavernosa. Besides, hypoxia and acidosis make easier fibrotic evolution of corpora cavernosa. Therefore, it could be hypothesized that priapism was induced by olanzapine through α -adrenergic blocking and anticholinergic properties. Of course, it cannot be excluded that priapism was induced by topiramate or through the interaction of olanzapine and topiramate. This case confirms that prolonged erections linked to drugs are common before the onset of priapism. Clinicians, especially among patients with severe psychiatric diseases and elevated levels of disability, should pay particular attention in monitoring this infrequent adverse event.

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