Clinical note

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Aripiprazole reverses Paliperidone-induced Hyperprolactinemia

INTRODUCTION

Hyperprolactinemia is a frequent antipsychotic drug caused side effect. A total of 42–47% of men and 48–93% of premenopausal women diagnosed of schizophrenia who take conventional antipsychotic drugs have hyperprolactinemia.1 Among the atypical antipsychotics, those producing a greater increase in the levels of this hormone in blood are amisulpiride, risperidone and its metabolite paliperidone.2

Prolactin is a sexual hormone segregated by the adenohypophysis into the bloodstream that stimulates the production of milk in the mammary glands and the synthesis of progesterone in the corpora lutea.3 Antipsychotic drugs exert a type D2 dopaminergic receptor blockade of the adenohypophyseal lactotroph cells. This is how the inhibition that causes dopamine in the synthesis of prolactin is suppressed.

The symptoms that may be provoked by hyperprolactinemia are: menstrual irregularities, sexual dysfunctions, infertility, gynecomastia and galactorrhea, among others.5 Furthermore, when this situation is maintained over time, as occurs with the long-term treatments of psychotic patients, serious problems may appear. These problems may be defects in bone mineralization,6 depression of immunity,7 increased risk of suffering neoplasms such as breast cancer8 and endometrial cancer,9 for example, as well as an increase in platelet activation.10

In spite of their severity, these side effects are frequently underdiagnosed because the physician does not systematically look for them, does not observe them visually and the patient feels ashamed to mention some of the spontaneously.

A CASE REPORT

A 30-year old woman diagnosed of paranoid type schizophrenic disorder of 10 years evolution. She had no...
The degree of elevation of serum prolactin levels is related to the type of antipsychotic, doses used, gender and age of the patient, among other factors. Within the group of antipsychotic drugs, those causing this effect most frequently are the conventional neuroleptics, amisulpiride, risperidone and its metabolite paliperidone. In turn, the dose-dependent effect is more frequent in women and among them in the young age. Our patient fulfilled several risk factors associated to the appearance of hyperprolactinemia: being a woman, being young and being treated with paliperidone.

In spite of that mentioned above, in our setting, risperidone and its metabolite paliperidone are drugs used due to their great efficacy. They are non-somnolent agonists that possess high affinity for the D2 dopaminergic receptors, also binding to another type of receptor. The antagonists that possess high affinity for the D2 dopaminergic receptors, also binding to another type of receptor. It has been suggested that risperidone and its metabolite paliperidone are drugs used frequently are the conventional neuroleptics, amisulpiride, risperidone and its metabolite paliperidone. In turn, the dose-dependent effect is more frequent in women and among them in the young age. Our patient fulfilled several risk factors associated to the appearance of hyperprolactinemia: being a woman, being young and being treated with paliperidone.

In spite of that mentioned above, in our setting, risperidone and its metabolite paliperidone are drugs used due to their great efficacy. They are non-somnolent agonists that possess high affinity for the D2 dopaminergic receptors, also binding to another type of receptor. The increase in the prolactin levels in blood is produced after a few hours of initiating acute treatment with these drugs. However, once the treatment is interrupted, the levels of this hormone may remain high for a prolonged period of time.

There are several strategies to attempt to correct the increase of prolactin levels, such as decreasing the antipsychotic doses or switching the antipsychotic, or adding a dopaminergic agonist. However, in these cases, we run the risk of provoking psychopathological destabilization, as occurred in the case of the patient we are presenting. We currently count on aripiprazole, an atypical antipsychotic of the so-called third generation. It acts on different neurotransmission systems with the special feature that it behaves as a partial agonist of the type D2 and D3 dopaminergic receptors. It has been suggested that aripiprazole can act, depending on the availability of the D2 and dopamine receptors in the synopsis, in each case having agonist or antagonist properties. In relation to its partial agonism, several works have demonstrated that this drug not only increases the serum levels of prolactin, but also corrects the hyperprolactinemia caused by other antipsychotics when associated to them. Normally, the doses used for this purpose, in the works reviewed, were 10-30 mg/day. However, in our case, we have observed that with only 5 mg/day, the prolactin levels have normalized. We carried out the evaluation of said levels after 4 weeks of treatment but the decrease in prolactin appears earlier. On the other hand, it would be interesting to see if this effect is maintained over time.

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