

Akathisia and Dyskinesia on starting Methylphenidate in a patient on risperidone

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ABSTRACT

Methylphenidate is a stimulant drug which is used for the treatment of attention deficit hyperactivity disorder. Here, we report a case of akathisia and dyskinesia on starting methylphenidate in patient who was on risperidone. The symptoms disappeared on stopping methylphenidate, despite continuing risperidone and

reappeared on starting methylphenidate again. Hence, physicians should be aware of the possible effect of dyskinesia when using a neuroleptic and a methylphenidate together in a patient.

Key Words: Methylphenidate, Akathisia, Dyskinesia, Risperidone

INTRODUCTION

Attention deficit hyperactivity disorder (ADHD) is a neurobehavioral syndrome which is characterized by a short attention span, hyperkinetic physical behavior, and impulsivity. The effective pharmacological treatments for ADHD include stimulants, antidepressants and alpha-adrenergic agents [1].

Methylphenidate, a piperidine derivative, is a central nervous system stimulant which is approved by FDA for the treatment of ADHD. It is supposed to act by blocking the dopamine transporter (DAT) and nor epinephrine transporters and by boosting the dopamine and nor epinephrine signals [2].

Structured psychotherapy can be effective when used adjunctly with medications. Group therapy which is focused on coping skills, support, and interpersonal psychotherapy, may also be very useful for these patients

CASE REPORT

A 7 year old boy who was diagnosed as mild mental retardation, with behavioral problems like aggressive behavior and self mutilation, was prescribed 2mg of risperidone by a pediatrician. These symptoms improved over two months. He was referred to the psychiatric unit, as his parents found him to be hyperactive, to be unable to sit at a place for a long duration and easily distractible.

On detailed interview, the boy was diagnosed to be having Attention Deficit Hyperactivity Disorder as per the DSM IV diagnostic criteria. He was started on the tablet methylphenidate SR -10mg after explaining the details about the indications, possible adverse events, etc. He was called for follow up after a month. On the follow up visit, his parents reported that a week after starting the new drug, the boy became more restless than earlier, he would not sit at a place and complained of discomfort in his legs.

He was found be distressed and expressed his constant need to wander around to reduce the discomfort in his legs. His sleep was reduced. It was also observed that his tongue would involuntarily get protruded frequently and he was not eating adequately. He complained about his helplessness in controlling the movements of his tongue.

As the parents observed these new symptoms after starting the new medicine, they decided to stop the new drug (methylphenidate) without consultation. They observed that these recent complaints subsided in two days after stopping the new drug. They

restarted the drug after seven days, as the boy was better then. There was recurrence of the restless wandering due to the discomfort in his legs and the involuntary protrusion of the tongue soon after restarting the drug. Hence, his parents brought him to the hospital. Methylphenidate was stopped for observation. The symptoms subsided despite the continuation of risperidone.

DISCUSSION

In this case, the child had symptoms which were suggestive of akathisia and dyskinesia after starting methylphenidate in addition to risperidone. These symptoms can be distinguished from those of the worsening of ADHD, as there was a distinctive change in his behavior from increased goal directed activity to restless wandering. The boy reported an urge to move around constantly to reduce the discomfort in his legs.

Although antipsychotics are known to produce similar adverse effects (akathisia and dyskinesia), in this case, the boy was on risperidone, 2 months prior to starting methylphenidate and continued it even after discontinuing methylphenidate. But the child did not have any adverse effects with risperidone. There are earlier reports on dyskinesia in patients who were on a combination of psycho stimulants and neuroleptics and on the exacerbation of neuroleptic withdrawal dyskinesia after chronic psycho stimulant use [3].

Simultaneous treatment with either group of drugs and the cessation of psycho stimulants [4], or the discontinuation of both, followed by resumption of psycho stimulants, also lead to dyskinesia [5].

Our case report differs from earlier cases which were studied, as the patient was on risperidone for two months and did not present with any movement disorder. It was only on introduction of the psycho stimulant that the patient developed akathisia and lingual dyskinesia. According to the WHO causality definition, this adverse drug reaction is categorized as a probable reaction to the drug [6].

A combination of psycho stimulants and atypical neuroleptic drugs is the recommended treatment of ADHD with co-morbid conduct disorder [7].

Physicians treating ADHD should be aware that a combination of these two drugs carries the risk of dyskinesia. Hence, it has been recommended that neuroleptics should be withdrawn gradually, followed by an extensive wash out period before starting on psycho

stimulants like methylphenidate [8].

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