OLGU SUNUMU / *CASE REPORT*

Zuclopenthixol Decanoate Induced Tardive Oculogyric Crisis: A Case Report

Zuklopentiksol Dekonatın Neden Olduğu Geç Okülojirik Kriz: Olgu Sunumu

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ABSTRACT

Zuclopenthixol is a typical antipsychotic drug used to treat schizophrenia and other psychotic disorders. Although effective and reliable, it can cause some side effects. The most common adverse effects are extrapyramidal symptoms such as akathisia, hyperkinesia, and hypokinesia. Zuclopenthixol decanoate is a long-acting form of the medication. The oculogyric crisis is the upward elevation of the gaze of both eyes within seconds to hours, resulting from the dystonic reaction of the eye muscles. It can occur as an adverse reaction to antipsychotic, antiemetic, antidepressant, antiepileptic, and antimalarial drugs. This article presents a case of tardive oculogyric crisis developed after using zuclopenthixol decanoate.

Keywords: *zuclopenthixol decanoate; tardive oculogyric crisis; schizophrenia*

ÖZET

Zuklopentiksol, şizofreni ve diğer psikotik bozuklukları tedavi etmek için kullanılan tipik bir antipsikotik ilaçtır. Etkili ve güvenilir bir ajan olmasına rağmen bazı yan etkilere neden olabilir. En yaygın yan etkileri akatizi, hiperkinezi ve hipokinezi gibi ekstrapiramidal semptomlardır. Zuklopentiksol dekanoat uzun etkili bir formdur. Oculogyric kriz, göz kaslarının distonik reaksiyonunun bir sonucu olarak her iki gözün bakışının saniyeler ila saatler içinde yukarı doğru yükselmesidir. Antipsikotik, antiemetik, antidepresan, antiepileptik ve antimalaryal ilaçların yan etkisi olarak görülebilir. Bu yazıda zuklopentiksol dekanoat kullanımı sonrası gelişen tardif okülojirik kriz olgusu sunulmaktadır.

Anahtar kelimeler: *zuklopentiksol dekonat; geç okülojirik kriz; şizofreni*

Introduction

Oculogyric crisis is a dystonic reaction characterized by the prolonged and involuntary upward deflection of the eyes[1]. This is followed by excessive and sustained upward deflection of the eyes, which is considered more characteristic. Additionally, the eyes may converge, deviating up and to the side or down. The most commonly reported associated findings are backward and lateral flexion of the neck and ocular pain[2]. Oculogyric crisis may be triggered by drugs such as antipsychotics (haloperidol, chlorpromazine, fluphenazine, olanzapine, risperidone, ziprasidone, quetiapine, clozapine, aripiprazole, and loxapine), or other drugs such as carbamazepine, chloroquine, cisplatin, diazoxide, levodopa, lithium, metoclopramide, pediapine, peclofenidone, reclospine, peclopramide; and by L acid decarboxylase deficiency, Postencephalitic Parkinson, Tourette Syndrome, Multiple Sclerosis, Neurosyphilis, head trauma, thalamic infarction, fourth ventricle lesions, cystic glioma, herpes encephalitis and kernicterus[3–6].

Zuclopenthixol is an atypical antipsychotic that is a neuroleptic of the thioxanthene group and suitable for monotherapy; it has a rapid onset of action, very few and mild adverse effects, and good tolerability[7]. Zuclopenthixol, which binds both D_1 and D_2 receptors and has a weak effect on the striatal dopamine pathway of the brain, unlike classical neuroleptics, is generally used in treatment-resistant schizophrenia cases[8]. In one study, extrapyramidal symptoms were seen in 61% of patients using zuclopenthixol at doses ranging from 50 mg to 300 mg every two weeks, and 78% required antiparkinson medication[9]. Zuclopenthixol decanoate is a long-acting form, and its side-effect profile may vary. Side effects of zuclopenthixol decanoate

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include sedation, asthenia, dystonia, akathisia, tremor, increased salivation, orthostatic dizziness, low libido, hypokinesia, rigidity, and difficulty concentrating[8,9]. However, while there are reports that oculogyric crisis may occur due to the use of zuclopenthixol decanoate, there is limited data on the occurrence of tardive oculogyric crisis[10].

In this case report, a 34-year-old male patient who experienced tardive oculogyric crisis attacks after the use of zuclopenthixol decanoate is presented.

Case

A 34-year-old male patient, single, unemployed, and a primary school graduate, living with his family, who had been diagnosed with schizophrenia, had been admitted to the psychiatry service seven times due to psychotic exacerbations. The patient was brought to the psychiatry polyclinic by his family due to the statements that people follow him, he will be harmed, his thoughts are read, and he behaves strangely. The patient was admitted to the psychiatry clinic with the diagnosis of psychotic exacerbation. Zuclopenthixol decanoate 200 mg intramuscular injection every two weeks was prescribed because of the non-compliance of the patient for the previous various antipsychotic drugs. The patient, who was in remission after eight weeks of hospitalization, was followed up by the Community Mental Health Center. It was learned that the patient had an involuntary upward deviation of the eye and ocular pain, which started four months after beginning zuclopenthixol decanoate 200 mg every two weeks.

For this reason, the patient was started on biperiden 2 mg/day. Due to the regression of the patient's complaints, it was concluded that the patient was experiencing a tardive oculogyric crisis due to zuclopenthixol decanoate. The patient's zuclopenthixol decanoate treatment was switched to aripiprazole 30 mg/day. Biperiden 2 mg/day treatment was continued for two months. Although the patient's eyes occasionally continued to turn upward, their complaints entirely resolved three months after discontinuing zuclopenthixol decanoate. The patient is still in remission with aripiprazole 30 mg/day treatment.

Discussion and Conclusion

It has been observed that zuclopenthixol, which is an atypical antipsychotic used in the treatment of psychotic disorders among psychiatric disorders, may cause oculogyric crisis, and oculogyric crisis ceases and does not recur after treatment is discontinued[11]. Praharaj et al. reported as a case report that a 21-year-old male schizophrenic patient who was treated with 200 mg depot zuclopenthixol decanoate intramuscular injection once a month experienced symptoms of tardive oculogyric crisis symptoms one and a half year after the start of the treatment and these symptoms regressed after the drug was discontinued[10].

The nigrostriatal dopaminergic pathway extending from the substantia nigra to the putamen and caudate nucleus is thought to be the underlying cause of the oculogyric crisis side effect. Antipsychotic agents cause acute dystonia by blocking dopamine D_2 receptors in the caudate, putamen, and globus pallidum[12]. It is thought that dopamine dysregulation, which causes a hypodopaminergic state, may also cause oculogyric crisis[13]. Zuclopenthixol acting by binding to D2 receptors may have caused an oculogyric crisis[8]. Since zuclopenthixol decanoate used in this case is a long-acting depot form, it may have caused delayed tardive oculogyric crisis[8]. In one study, it was shown that neuroleptic drugs that cause oculogyric crisis may also cause less frequent tardive crisis[14]. Contrary to this information, a tardive oculogyric crisis occurred in our case.

Tardive extrapyramidal symptoms are involuntary movement disorders that develop after long-term use of antipsychotic drugs. It may not improve after discontinuation of the agent used. Although it generally affects the orofacial region, it can affect the whole body. It can cause myoclonic convulsions, tics, chorea, and dystonia. Risk factors include long-term use of high-dose first-generation antipsychotics, age, female sex, and mood disorders[15]. In the case presented, there is only long-term use of antipsychotic drugs as a risk factor. In addition, a tardive oculogyric crisis that started after the long-term use of zuclopenthixol decanoate is another remarkable feature of this case report.

Drug adverse effects can be evaluated with the 10-item Adverse Drug Reaction (ADR) Probability Scale developed by Naranjo et al. According to the grading, a score of 0–13 points can be obtained, and a score of 9 and above is evaluated as "definite", between 5–8 points as "likely", between 1–4 points as "probable"and 0 points as "doubtful"[16]. When our case was evaluated according to this scale, it has got a total of 4 points due to the previous report of oculogyric crisis due to zuclopenthixol use (1 point) because the tardive oculogyric crisis occurred after zuclopenthixol decanoate was

given (2 points), because the side effect improved after zuclopenthixol decanoate was discontinued (1 point). This information suggests that the side effect may be related to zuclopenthixol decanoate.

The current report has some limitations. Zuclopenthixol decanoate plasma measurement and MRI imaging were not performed on our patient.

In conclusion, the oculogyric crisis is an essential and disturbing medical condition that negatively affects quality of life and social relations. Oculogyric crisis from zuclopenthixol is frequently seen, whereas tardive oculogyric crisis from zuclopenthixol decanoate is rarely seen. For these reasons, it is important that clinicians who will prescribe zuclopenthixol or zuclopenthixol decanoate drugs should consider this adverse effect and that clinicians evaluating patients presenting with oculogyric crisis symptoms should question the drug use in the patient's history. More controlled studies with large samples are needed to elucidate the mechanism of tardive oculogyric crisis associated with using zuclopenthixol decanoate.

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