

Case report / Olgu sunumu**Sertraline-induced dose related acute cervical dystonia
in an adolescent patient****Mengühan ARAZ ALTAY¹****ABSTRACT**

Selective serotonin re-uptake inhibitors (SSRIs) are commonly used in the clinical practice of child and adolescent psychiatry because of reasonable safety and tolerability. In the literature, extrapyramidal system symptoms (EPS) induced by SSRI use are more frequently reported in adults, but are rarely reported in children. In this report, we report acute cervical dystonia that occurs due to sertraline dose increase and does not recur after dose reduction in a 12-year-old adolescent girl. Although sertraline-induced cervical dystonia in children and adolescents has been reported as several case reports, our case is the first case occurring on the first day after a dose increase. (*Anatolian Journal of Psychiatry* 2019; 20(6):667-669)

Keywords: sertraline, cervical dystonia, extrapyramidal system symptoms, child and adolescent

**Bir ergende sertralin dozuna bağlı olarak gelişen
akut servikal distoni****ÖZ**

Seçici serotonin geri alım inhibitörleri, güvenli olması ve tolere edilebilirliği nedeniyle çocuk ve ergen psikiyatrisi klinik pratiğinde yaygın olarak kullanılmaktadır. Literatürde seçici serotonin geri alım inhibitörleri SSRI kullanımına bağlı ekstrapiramidal sistem belirtiler erişkinde daha sık bildirilmiş olup çocuklarda nadir olarak sunulmuştur. Biz bu yazıda, 12 yaşında ergen bir kızda sertalin doz artışına bağlı ortaya çıkan ve dozun azaltılmasından sonra yinelemeyen akut servikal distoni olgusunu sunuyoruz. Çocuk ve ergenlerde sertraline bağlı servikal distoni birkaç olgu sunumu olarak bildirilmiş olmakla birlikte, olgumuz doz artışı sonrası ilk günde ortaya çıkan ilk olgudur. (*Anadolu Psikiyatri Derg* 2019; 20(6):667-669)

Anahtar sözcükler: Sertralin, servikal distoni, ekstrapiramidal sistem belirtileri, çocuk ve ergen

INTRODUCTION

Selective serotonin re-uptake inhibitors (SSRIs) are frequently used in the treatment of anxiety disorders and depressive disorders in childhood because of their fewer side effects.¹ Extrapyramidal system symptoms (EPS) findings such as SSRI-induced dystonia, tremor, Parkinsonism, and akathisia which is the most common, have

been reported.² Although the most common EPS findings are reported to be due to fluoxetine, sertraline-induced EPS findings are less common.³ Cervical dystonia is a type of dystonia that presents with tonic-clonic contractions in the neck and shoulder region and causes abnormal head posture.⁴ Antiepileptic, antiemetic, antipsychotic, antipyretic drugs may cause cervical dystonia.⁴ Sertraline-induced cervical dystonia

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has been reported in several cases in the literature, and we will do a literature review with this case report.

CASE REPORT

A 12-year-old girl was admitted with the complaints of dyspnea, palpitation, fear of death, and having nightmares. It was learned from her history that these complaints had started three months ago and she had not had any psychiatric and physical disorder earlier. In the psychiatric evaluation performed, she was diagnosed with a panic disorder according to the DSM-5 criteria, and sertraline 25 mg/day treatment was initiated. In the 1st month control, it was learned that she partially benefited from the treatment and she had no side effect, and the dose of sertraline was increased to 50 mg/day. After 12 hours of sertraline use at a dose of 50 mg/day, the patient was admitted with the complaints of painful contraction on the right side of the neck and inability to move her neck. In the evaluation made, it was learned that she did not have any trauma and did not use an additional drug, and no abnormality was detected in laboratory tests. Therefore, neurology consultation was received, and the diagnosis of cervical dystonia was made. Cervical dystonia was attributed to sertraline treatment since there was no other explainable reason, and dystonia completely disappeared half an hour after intramuscular administration of 5 mg biperiden. The patient was started to be followed up by reducing sertraline dose to 25 mg/day. During the three-month follow-up, no side effect was observed along with the improvement in panic disorder symptoms.

DISCUSSION

EPS associated with SSRI drugs is a quite rare side effect due to an interaction between serotonergic and dopaminergic pathways.⁵ Sertraline is a drug of the SSRI group which is commonly used in childhood.⁶ It is reported that sertraline has lower EPS risk since it is more effective on dopamine reuptake inhibition than the other drugs of the SSRIs.⁷ In the literature, sertraline-induced most common EPS has been reported to be akathisia, and the cases of dystonia are quite limited.^{3,8} The majority of reported cases are adult cases. Sertraline-induced cervical dystonia in children and adolescents has been reported in five cases together with our case. In one of these cases, sertraline dose of 50 mg/day administered to a 16-year-old girl due to depressive disorder was increased to 75 mg/day, cervi-

cal dystonia developed in the patient one week after the dose increase, the symptom regressed in an hour with the administration of 5 mg biperiden, sertraline treatment was discontinued and another drug treatment was started.⁹ In the other case report, sertraline was initiated for a 16-year-old girl due to panic disorder, cervical dystonia developed three days after the dose of 50 mg/day was increased to 100 mg/day, 5 mg biperiden treatment was administered, and the patient was followed up by reducing dose to 75 mg/day.¹⁰ In the third case, 25 mg/day sertraline was initiated for an 8-year-old male patient due to anxiety disorder, cervical dystonia developed two weeks after the dose increase of 50 mg/day, biperiden treatment was administered and sertraline was discontinued.¹⁰ Finally, a 17-year-old female patient was admitted with cervical dystonia two days after taking four pills (200 mg) at the same time while receiving 50 mg/day sertraline treatment due to depressive disorder, biperiden was administered, then the dosage she used was maintained, and no side effect was observed.¹¹

It is remarkable that all children and adolescent cases with sertraline-induced cervical dystonia in the literature were reported from Turkey along with our case. There may be a genetic predisposition to this situation in our country. This supports the hypotheses that SSRI-induced EPS findings could be associated with serotonin and dopamine receptor polymorphism or cytochrome p450 phenotype and ethnicity.^{12,13} The fact that most of the cases (80%) that have been reported up to now are girls along with our case gives rise to the thought that this side effect affects the girls more. In all cases that have been reported so far, cervical dystonia developed between two days and three weeks after sertraline dose increase, biperiden was administered in all of them, dose reduction was applied in half of them, and the drug was discontinued in half of them. In our case, cervical dystonia also developed after the dose increase, and the symptom regressed with biperiden. In our case which the second youngest reported case is the cervical dystonia case that occurred at the earliest after dose increase among all cases the cervical dystonia case that occurred at the earliest after dose increase among all cases. In our case, the side effect disappeared with dose reduction. Since sertraline is one of the safest SSRIs in childhood, dose reduction may be a more reasonable approach instead of using another drug in these cases. However, we do not know whether cervical dystonia will develop if the dose has been

raised again with or without biperiden.

When we evaluate all children and adolescents with developed cervical dystonia due to sertraline use in the literature, the following instructive results can be achieved: 1. cervical dystonia in children and adolescents due to sertraline use frequently affects girls, 2. although sertraline

doses at which cervical dystonia develops are different (50-200 mg/day), it is associated with dose increase, 3. cervical dystonia may occur on the first day to within the two weeks. 4. cervical dystonia can be solved by biperiden treatment, and the side effect can be controlled by decreasing the drug dose.

REFERENCES

1. Henry A, Kisicki MD, Varley C. Efficacy and safety of antidepressant drug treatment in children and adolescents. *Mol Psychiatry* 2012; 17:1186-1193.
2. Hawthorne JM, Caley CF. Extrapyramidal reactions associated with serotonergic antidepressants. *Ann Pharmacother* 2015; 4: 1136-1152.
3. Madhusoodanan S, Alexeenko L, Sanders R, Brenner R. Extrapyramidal symptoms associated with antidepressants-a review of the literature and an analysis of spontaneous reports. *Ann Clin Psychiatry* 2010; 2:148-156.
4. Fahn S, Marsden CD, Calne DB. Classification and investigation of dystonia. CD Marsden, S Fahn (Eds.), *Movement Disorders*, second ed., London: Butterworths, 1987, pp.332-358.
5. Govoni S, Racchi M, Masoero E, Zamboni M, Ferini-Strambi L. Extrapyramidal symptoms and antidepressant drugs: neuropharmacological aspects of a frequent interaction in the elderly. *Mol Psychiatry* 2001; 6:134-142.
6. Hetrick SE, McKenzie JE, Cox GR, Simmons MB, Merry SN. Newer generation antidepressants for depressive disorders in children and adolescents. *Cochrane Database Syst Rev* 2012; 14:11.
7. Raveendranathan D, Rao SG. Sertraline induced acute mandibular dystonia. *J Neurosci Rural Pract* 2015; 6:586.
8. Lambert MT, Trutia C, Petty F. Extrapyramidal adverse effects associated with sertraline. *Prog Neuropsychopharmacol Biol Psychiatry* 1998; 22:741-748.
9. Yazıcı KU, Perinçel İ. Cervical dystonia associated with sertraline in an adolescent a case. *Firat Med J* 2014; 19:53-55.
10. Ayaydın H, Bozkurt H. Spasmodic torticollis associated with sertraline in a child and an adolescent. *Turk J Pediatr* 2015; 57:109-111.
11. Özcan A, Uytun MÇ, Uytun S, Poyrazoğlu HG. Dystonia of neck and oculogyric dystonic reaction due to sertraline use. *Anatolian Journal of Psychiatry* 2015; 16:378.
12. Wang LF, Huang JW, Shan SY, Ding JH, Lai JB, Xu Y, et al. Possible sertraline-induced extrapyramidal adverse effects in an adolescent. *Neuropsychiatr Dis Treat* 2016; 12:1127-1129.
13. Baykara S. Oromandibular dystonia with sertraline treatment: a case report. *Anatolian Journal of Psychiatry* 2017; 18:59-61.