

# A girl with increased writing and painting activities associated with Turner's syndrome and autistic spectrum disorder

Shohreh Mohseni Ahouee, Mitra Hakim Shooshtari<sup>1</sup>, Reza Bidaki<sup>2</sup>

Mental Health Research Center, Faculty of Behavioral Sciences and Mental Health, Tehran Institute of Psychiatry, Resident of Psychiatry of Iran University of Medical Science, Tehran, <sup>1</sup>Child and Adolescent Psychiatrist, Associate Professor of Iran University of Medical Science, Mental Health Research Center of Tehran, Psychiatric Institute, Tehran, <sup>2</sup>Department of Psychiatry, Rafsanjan University of Medical Sciences, Rafsanjan, Iran

## Abstract

This report describes the findings on the evaluation of a 9-year-old girl with disabling and pronounced increased writing and painting activities associated with Turner's syndrome and autistic spectrum disorder. She spent most of the time doing these activities which affected not only her academic performance, but also social relationships. A comprehensive treatment plan consists of both biological and psychological aspects, is the main point of this case. Low dose of risperidone (0.5 mg/day) was started to decrease the patient's stereotypic behaviors. Sertraline (12.5 mg/day) was prescribed for her phobia. She was also referred to an occupational therapist in order to improve her social skills.

**Key Words:** Turner's syndrome, autistic spectrum disorder, writing activity

## Address for correspondence:

Dr. Shohreh Mohseni Ahouee, Resident of Psychiatry of Iran University of Medical Science, Mental Health Research Center of Tehran Psychiatric Institute, Tehran, Iran. E-mail: shona5\_md@yahoo.com

**Received:** 14.07.2014, **Accepted:** 20.08.2014

## INTRODUCTION

Turner's syndrome (TS) is a genetic condition arising from the absence of entire or a part of the X-chromosome. The function of genetic conditions that emphasize the importance of X-linked genes in the manifestation of an autistic phenotype has been investigated recently and it seems that 5% of patients with TS are affected by autistic disorder and

more than 25% are influenced by autistic spectrum disorder (ASD).<sup>[1]</sup>

Although verbal intelligence and conversational language abilities are often normal in X-monosomy, there is some evidence that non-verbal skills, arithmetical abilities and selective visuospatial skills are impaired in patients with TS.<sup>[1-3]</sup> TS patients' problems are mostly in the domains of reciprocal social interactions and social processes including emotion recognition, recognizing facial expressions and gaze perception.<sup>[4]</sup> Adjustment problems such as poor concentration and poor peer relationships among adolescents with TS<sup>[5]</sup> seem to continue after this period.<sup>[6]</sup>

This report describes the findings on the evaluation of a 9-year-old girl with disabling and pronounced increased writing and painting activities associated with TS and autism.

Access this article online	
Quick Response Code:	Website: www.advbiores.net
	DOI: 10.4103/2277-9175.156655

Copyright: © 2015 Ahouee. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

**How to cite this article:** Ahouee SM, Shooshtari MH, Bidaki R. A girl with increased writing and painting activities associated with Turner's syndrome and autistic spectrum disorder. *Adv Biomed Res* 2015;4:91.

## CASE REPORT

A 9-year-old girl was referred to the child psychiatric clinic because of having a fear of darkness and night (Nyctophobia). Based on her medical records, she is affected by TS confirmed by karyotyping at 8-year-old. This finding was obtained through examination of the cause of short stature. The patient is the first child of a couple that are not relatives. They have another healthy daughter. She showed mild delay in developmental milestones, so she began to say first words on 18-month-old. The patient had shown failure to thrive from 9-month-old, so she did not reach to appropriate height for weight.

In psychiatric evaluation, there were poor fine motor abilities, e.g. she was unable to button and unbutton, tying shoelaces, combing hair and using scissors. She repeatedly touched her ears, eyes and umbilicus in a periodic manner. According to her mother, she was interested in coloring her fingertips of left hand at 4-year-old. After that, she was painting most of the time and if her parents did not give her a piece of paper, she drew on her hands. Her paintings consist of repeated figures and stereotypic patterns, such as repeated windows [Figure 1], flowers [Figure 2], mountains, geometric forms [Figure 3] and peculiar characters [Figure 4].

Moreover, she was preoccupied with “time” and asked repetitive questions such as “When is the fall?” and “What time does new year come?” Her prosody of speech was normal while her content of speech was poor. She is able to easily memorize and then stereotypically write the phone numbers and birth dates of their relatives and friends, while her academic performance is poor in school. She studied the second grade of regular elementary school and did not have any intimate friends and complained about

her loneliness. Her classmates expressed that she was often trying to impose her will on them without any emotional reciprocity. She did not have any concept of some words such as “to conceal” and “to cheat.” Her verbal IQ was 85 and performance IQ was 107 with the total of 100.

In study of her developmental history, there was no experiencing of stranger anxiety. She neither did pretended play nor was interested in social play that needed to participate in a peer group. Among various TV programs, she liked a special TV show that had a certain performer.

Based on the diagnosis of autistic spectrum disorder, an electroencephalography and brain imaging were done for her. There were not any abnormal findings in them. Low dose of risperidone (0.5 mg/day) was started to decrease the patient’s stereotypic behaviors. Sertraline (12.5 mg/day) was prescribed for her phobia. She was also referred to an occupational therapist in order to improve her social skills. On several follow-up sessions (up to six months after the first visit), she gradually showed a better style in interpersonal relationships. Although she paid more attention to nonverbal communications, there were still difficulties to share her interests and opinions to the family members and classmates friendly. Interestingly, the stereotypic writing and painting activities were decreased on medications and occupational therapy as well and she spent more time with her friends, but the stereotypic patterns remained stable.

## DISCUSSION

This paper presents a case of TS with increased writing and painting activities associated with autism, the condition that is uncommon in the practice. It appears that some facets of social cognition, especially



Figure 1: Repeated windows of a house

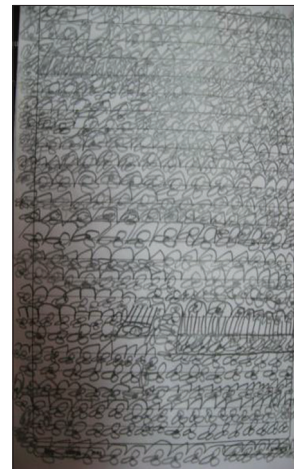
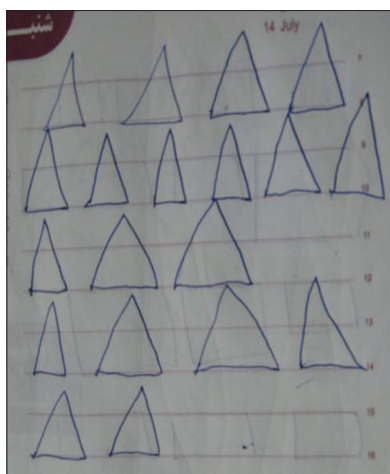


Figure 2: Repetitive flowers



**Figure 3:** Repetitive triangles

emotion recognition and reciprocal social interaction, repetitive and stereotypic behaviors and interests were impaired in the present case supporting the diagnosis of autistic spectrum disorder (according to new criteria in DSM-5). She showed a particular interest in stereotypic writing and painting activities and spent most of the time doing them that affected not only her academic performance, but also social relationships. She became an object of ridicule among some of her classmates and was stigmatized by them, which resulted in more withdrawal and social isolation. View additional authors

Several neurological causes of increased writing activity met in the literature are reviewed here. A 32-year-old male patient with early-onset Parkinson's disease has been reported who showed a significant increased writing activity and spent more than 12 hours writing.<sup>[7]</sup> In another report, writing activity in a 70-year-old man with a history of alcohol misuse and maturity onset diabetes has been presented.<sup>[8]</sup> Change in the pattern of writing has been reported in epileptic patients.<sup>[9]</sup> Reaxys Database Information In the literature review, we have not found any report of increased writing activity associated with TS and ASD.

The major issue of the present case is comorbidity of TS and ASD because unrecognized autistic spectrum disorder could have an impact on case management and lead to more academic failure and deep social isolation. A comprehensive treatment plan consisting of both biological and psychological aspects is the main point of this case. Family psycho-education, psycho-medications and occupational therapy can be a target of therapeutic interventions and



**Figure 4:** Repeated peculiar characters

are recommended for better outcome. Retrieving additional authors.

- On behalf of all authors, the corresponding author states that there is no conflict of interest
- This study has been performed in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki and its later amendments. The parents of the case (A 9-year-old girl) gave their informed consent prior to their inclusion in the study.

## REFERENCES

1. Marco EJ, Skuse DH. Autism-lessons from the X chromosome. *Soc Cogn Affect Neurosci.* 2006;1:183-93.
2. Mazzocco MM, Thompson L, Sudhalter V, Belser RC, Lesniak-Karpiak K, Ross JL. Language use in females with fragile X or Turner syndrome during brief initial social interactions. *J Dev Behav Pediatr.* 2006;27:319-28.
3. Mazzocco MM. The cognitive phenotype of Turner syndrome: Specific learning disabilities. *IntCongr Ser.* 2006;1298: 83-92.
4. Burnett AC, Reutens DC, Wood AG. Review: Social cognition in Turner's syndrome. *J Clin Neurosci* 2010; 17:283-6.
5. McCauley E, Feuillan P, Kushner H, Ross JL. Psychosocial development in adolescents with Turner syndrome. *J Dev Behav Pediatr.* 2001;22:360-5.
6. Schmidt PJ, Rubinow DR, Bondy CA. Adult women with Turner syndrome: A systematic evaluation of current and past psychiatric illness, social functioning, and self-esteem. *IntCongr Ser.* 2006;1298:100-7.
7. Miwa H, Kondo T. Increased writing activity in Parkinson's disease: A punding-like behavior? *Parkinsonism Relat Disord* 2005;11:323-5.
8. van Vugt P, Paquier P, Kees L, Cras P. Increased writing activity in neurological conditions: A review and clinical study. *J Neurol Neurosurg Psychiatry* 1996; 61:510-4.
9. Anselm DJ, Pike B, Dolce S, Schwartzman A. Analysis of writing in an epilepsy center population: A prospective blinded study. *Epilepsy Behav.* 2006;9:464-8.

**Source of Support:** Nil, **Conflict of Interest:** None declared.