



## Differential Diagnosis and Treatment with Fluoxetine of Selective Mutism: A Case Presentation

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### Authors' contributions

This work was carried out in collaboration between all authors. Authors MCU and DBO assessed the patient. Author SU provided the pediatric literature. All authors read and approved the final manuscript.

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Case Study

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### ABSTRACT

**Introduction:** Selective mutism (SM) is a pediatric psychiatric disorder that occurs when a child consistently fails to speak in specific situations in which speaking is expected, such as at school and social gatherings, but speaks appropriately in other settings. Selective mutism is often diagnosed when a child starts school and does not talk to teachers or peers, but talks to family members at home; the condition is frequently accompanied with anxiety and shyness.

**Case Presentation:** This case report provides information on the treatment of selective mutism in a 4-year-old Turkish male patient with preexisting behavioral inhibition. In this case report our patient's diagnosis is selective mutism predominated by behavioral inhibition.

**Management and Outcome:** Our patient was referred to the pediatric outpatient clinic with an initial diagnosis of autism due to autistic symptoms such as avoidance of strangers and lack of eye contact. The patient was diagnosed with selective mutism and play therapy was attempted with the child twice but he did not interact with us. Finally we decided to start fluoxetine suspension (5 mg/day). During follow-up, it was seen that there was a marked improvement in behavioral inhibition within one month. It was also seen that the social anxiety-like symptoms of selective

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mutism were almost resolved.

**Conclusion:** Selective mutism is rare with a prevalence below 1% in the general population, but with a higher prevalence in populations at risk. It should be recognized in pediatric and psychiatric clinics. Its differential diagnosis is important for prognosis and treatment. Evidence for treatment strategies is very rare. Fluoxetine is recommended for selective mutism, and we found that it is useful for SM treatment.

*Keywords: Selective mutism; treatment; differential diagnosis; fluoxetine.*

## ABBREVIATIONS

*SM: Selective Mutism; 5-HTT: 5-Hydroxytryptophan; SSRI: Selective Serotonin Reuptake Inhibitors.*

## 1. INTRODUCTION

Children with selective mutism (SM) can talk but are characterized by a consistent lack of speech in important social situations [1]. Usually, they are mute at kindergarten/school, but talk freely at home with close family members. When they are mute, some do not even communicate nonverbally and are unable to express their needs, emphasizing the seriousness of this condition. SM is relatively rare, with a prevalence of 0.7% reported in a study of children from kindergarten through to second grade, and it is somewhat more frequent in girls [2]. The onset of selective mutism generally occurs between 3 to 5 years of age [3]. Despite this early onset, children are not commonly referred for clinical assessment until they are between approximately 6.5 to 9 years of age [4]. SM may persist for a few months to several years, and adults diagnosed with SM as children often continue to suffer with social anxiety or deficits in social communication, in addition to displaying other problems with socioemotional and daily adjustment [5].

Behavioral inhibition (BI) is a state of feeling excessive, intense and persistent fear and displaying shyness and social withdrawal behavior when encountering novel situations, states or objects [6]. BI is seen in 15% of infants by 3 months of age [7]. It was found that the rates of developing internalizing disorders, mainly separation anxiety disorder and social phobia, are higher later in life [8]. It is accepted that the most potent premise of anxiety disorder in infants and younger children is behavioral inhibition, which is a component of temper [9].

In this case report our patient's diagnosis is selective mutism predominated by behavioral

inhibition and the differential diagnosis was made.

## 2. PRESENTATION OF CASE

Our patient, a 4 year 10 month old Turkish boy, was referred to the child psychiatry clinic from the pediatric clinic with an initial diagnosis of autism due to autistic symptoms such as avoidance of strangers and lack of eye contact.

### 2.1 Close History

The parents mainly complained that their child spoke to his parents and relatives; however, he did not speak to strangers and avoided situations in which he would have to speak. He had temporarily attended kindergarten, but he had not entered the classroom without his mother. He had played with his peers, but stopped playing and became silent when a teacher entered the classroom. Nevertheless he learned what was taught and caught up with his peers, even though he started kindergarten late. He had no problem in terms of eye contact and communication with his family. He showed empathy, and enjoyed being cuddled and touched. He had no stereotypical movements or interest in spinning objects. Also, he played imaginary games, while playing with his toys. In particular he showed an extreme interest in cars and knew many brands. He had no areas of interest other than this. In addition he was rather active at home. The child had not received psychiatric or psychotherapeutic treatment before admission.

### 2.2 Past History

It had been a planned pregnancy. His mother complained about vomiting during pregnancy.

The patient was born by normal spontaneous vaginal delivery with no complications. He started to walk at 10 months of age; he began to speak at 12 months of age and achieved toilet training at 18 months of age. At 2 years of age he was circumcised. He was diagnosed with Duane syndrome by the ophthalmology department at 9 months of age when his parents recognized a problem in outward gaze.

### 2.3 Family History

The mother is a housewife aged 33 years and has a university degree. The mother was concerned for her child; however, she faced difficulties with his condition. The father is 36 years old, has a university degree and works as an electrical engineer. He was also concerned for his child. In the interview, the father said that he had also been shy when he was a child and had difficulties about speaking in public, but he has overcome this issue now. He also said that the child's grandfather had similar personality characteristics. The patient has a sister aged 8. No further psychopathological abnormalities were present in either the parents or sister.

### 2.4 Interviews

In the first interview, the patient cuddled his father and made no eye contact with the clinician. He answered a few questions by nodding. In the following interview, he was observed in the children's playroom. He played with his sister and it was observed that he had a good interaction with her. However, he hid under the chairs and froze with a marked reduction in his movements when he noticed the clinician. This situation was observed on multiple occasions.

### 2.5 Management and Outcome

As a conclusion of interviews, the patient was diagnosed with selective mutism. Since there was a lack of autistic symptoms, autism spectrum disorders were excluded. The patient was evaluated by the neurology department for possible neurological disorders which may be concurrently present. However, no pathology was detected.

Firstly, it was recommended to slowly familiarize him to kindergarten and to encourage participation in social activities. Treatment was initiated by using play therapy methods, but the

patient did not interact with us. As there was no significant improvement in symptoms, we decided to add the SSRI fluoxetine to the treatment regimen, by administering 5 mg fluoxetine/day orally. During follow-up, exactly 1 month after the initiation of fluoxetine treatment, the patient talked to the therapist for the first time. His mood seemed to lift. In kindergarten he was able to communicate with his fellow students and teacher.

## 3. DISCUSSION

SM is associated with social anxiety/inhibited temperament, bilingualism, and neurodevelopmental disorders; in addition, it may persist over time and lead to social and academic problems [10,11]. There is a general consensus that SM is closely related to social anxiety disorder, with an increasing conceptualization of SM as a developmental variant of social phobia [11]. Evidence to support the link between SM and social phobia is derived from multiple sources. For example, numerous studies report comorbidity rates approaching or greatly exceeding 50% [12,13], with some co-occurrence rates greater than 80% [14].

It has been suggested that behavioral inhibition predisposes the development of anxiety disorders later in life and that it is even an early manifestation of these disorders. It has been stressed that behavioral inhibition might result from a genetic predisposition, that there is an association between BI and the locus of the corticotrophin releasing hormone, and that there is also an increased risk in children with short 5-HTT allele and poor social support [7]. A similar inhibited temperament has been reported in close family members [15]. The presence of similar traits in our patient's father and grandfather during their childhoods suggests that there could be a genetic predisposition in our case.

In addition to comorbid disorders, the following differential diagnoses are possible: transient adaptional shyness in an adjustment disorder, intellectual disabilities, pervasive developmental disorders, expressive language disorders, mood disorders, and hearing impairment [16].

Since selective mutism may be comorbid with speech disorders, speech disorders should be excluded in the differential diagnosis. Delayed speech, articulation problems and other

communication disorders have been described in 30% to 50% of clinically referred cases [10].

Developmental stage and intelligence should be precisely determined and auditory examination and neurodevelopmental assessment should be performed [16]. In our case, this diagnosis was excluded because our patient's neurological and developmental assessments were normal.

Familial and environmental responses at the time of the onset of the disorder should be obtained; relationships between family members should be evaluated and physical, sexual, and emotional abuse should be investigated [17]. Findings which suggest autism spectrum disorders should be screened [16]. In the differential diagnosis from autism, children with selective mutism who have shyness and language abnormalities specific to autism (reverse pronouns, stereotypical speech, abnormal accent) are uncommon. They are highly dependent on their parents and express mutual interaction. They also play imaginary games [18]. The most striking characteristic is that children with selective mutism persistently remain silent in certain situations, such as a school environment, around playmates and strangers, but they speak in other situations [19], as was the case in our patient.

Traditionally, SM is considered to be a challenging condition to treat [20]. The treatment literature has been dominated by case studies with a variety of therapeutic approaches [21] and the etiological explanations offered in these studies often appear to reflect the theoretical orientation of the authors, rather than empirically based knowledge. In light of the evidence regarding the efficacy of cognitive behavioral therapy for social anxiety [22], this method has also been applied to children with SM. Since children with SM tend to be most symptomatic in the school environment [23], their treatment requires extensive involvement of and coordination with school personnel, most notably the child's teacher. As a result, current treatment approaches shown to be effective for childhood social phobia and other childhood anxiety disorders may not be sufficient for the treatment of SM.

The use of SSRIs in the treatment of SM is supported by several studies [24], with, in particular, fluoxetine [25] as the agent with the

highest evidence for successfully treating selective mutism.

After beginning fluoxetine, our patient appeared more relaxed and began talking to us. The dose of fluoxetine was gradually titrated to 10 mg/d to avoid potential dose-related adverse effects, such as behavioral disinhibition. Despite titration, our patient experienced behavioral disinhibition so we decreased the dosage of fluoxetine to 2.5 mg/d. With this dosage, this side effect ceased. During follow-up, it was seen that there was a marked improvement in behavioral inhibition and mutism symptoms.

#### 4. CONCLUSION

In conclusion, in cases in which patients with selective mutism present to the departments of pediatrics or pediatric psychiatry, initial assessment and differential diagnosis are important in order to achieve appropriate referral and treatment. In our experience, we found that SSRIs can be useful in the treatment of patients with selective mutism.

#### CONSENT

Written informed consent was obtained from the patient's parents for publication of this case report and any accompanying images.

#### ETHICAL APPROVAL

Not applicable.

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#### COMPETING INTERESTS

Authors have declared that no competing interests exist.

#### REFERENCES

1. American Psychiatric Association (APA). Diagnostic and statistical manual of mental disorders, 4<sup>th</sup> ed. (DSM-IV). Washington DC. 1994;114-116.
2. Bergman RL, Piacentini J, McCracken JT. Prevalence and description of selective

- mutism in a school based sample. *Journal of the American Academy of Child Adolescent Psychiatry*. 2002;41:938–946.
3. Gokturk U, Coskun M. Selective Mutism In: Çuhadaroğlu FÇ(eds). *Child and Adolescent Psychiatry Basic Textbook*, Istanbul: Turkey; 2007.
  4. Standart S, Le Couteur A. The quiet child: A literature review of selective mutism. *Child and Adolescent Mental Health*. 2003;8:154–160.
  5. Remschmidt H, Poller M, Herpertz-Dahlmann B, et al. A follow-up study of 45 patients with elective mutism. *European Archives of Psychiatry and Clinical Neuroscience*. 2001;251: 284–296.
  6. Kagan J, Snidman N, Zetner M, et al. Infant temperament and anxious symptoms in school age children. *Dev Psychopathol*. 1999; 11: 209-224.
  7. Fox NA, Henderson HA, Marshall PJ. Behavioral inhibition: Linking biology and behavior within a developmental framework. *Annual Review of Psychology*. 2005;56: 235–262.
  8. Biederman J, Rosenbaum JF, Bolduc-Murphy EA, et al. A 3 year follow-up of children with and without behavioral inhibitor. *J Am Acad Child Adolesc Psychiatry*. 1993;32:814-821.
  9. Pine DS, Helfinstein SM, Bar-Haim Y, et al. Challenges in developing novel treatments for childhood disorders: Lessons from research on anxiety. *Neuropsychopharmacology*. 2009;34:213–228.
  10. Kristensen H. Selective mutism and comorbidity with developmental disorder/delay, anxiety disorder and elimination disorder. *Journal of the American Academy of Child Adolescent Psychiatry*. 2000;39:249–256.
  11. Bogels SM, Alden L, Beidel DC, et al. Social anxiety disorder: Questions and answers for the DSM-V. *Depression and Anxiety*. 2010;27:169–179.
  12. Alyanak B, Kılınçaslan A, Harmancı HS, et al. Parental adjustment, parenting attitudes and emotional and behavioral problems in children with selective mutism. *Journal of Anxiety Disorders*. 2012;27(1):9-15.
  13. Manassis K, Tannock R, Garland EJ, et al. The sounds of silence: Language, cognition, and anxiety in selective mutism. *Journal of the American Academy of Child & Adolescent Psychiatry*. 2007;46(9):1187-1195.
  14. Vecchio JL, Kearney CA. Selective mutism in children: Comparison to youths with and without anxiety disorders. *Journal of Psychopathology and Behavioral Assessment*. 2005;27:31-37.
  15. Kristensen H, Torgersen S. MCMI-II personality traits and symptom traits in parents of children with selective mutism: A case-control study. *Journal of Abnormal Psychology*. 2001;110:648–652.
  16. Fox NA, Nichols KE, Henderson HA, et al. Evidence for a gene-environment interaction in predicting behavioral inhibition in middle childhood. *Psychol Sci*. 2005;16:921-926.
  17. Gillberg C. *Clinical Child Neuropsychiatry*. Cambridge: Cambridge University Press. 2003;54-80.
  18. Blanz B, Remschmidt H, Schmidt MH, Warnke A. *Psychische Störungen im Kindesund Jugendalter. Ein entwicklungspsychopathologisches Lehrbuch*. Stuttgart, Schattauer GmbH. 2006;216-219.
  19. Lord C, Bailey A. *Autism Spectrum Disorders*. In: Aysev AS, Taner YI (eds). *Child and Adolescent Psychiatry Istanbul*, Golden Print. 2007;277-290.
  20. Cohan SL, Chavira DA, Stein MB. Practitioner review: Psychosocial interventions for children with selective mutism: A critical evaluation of the literature from 1990-2005. *Journal of Child Psychology and Psychiatry*. 2006;47(11):1085-1097.
  21. Anstendig K. Selective mutism: A review of the treatment literature by modality from 1980–1996. *Psychotherapy: Theory, Research, Practice, Training*. 1998;35:381–391.
  22. Dadds MR, Barrett PM. Practitioner review: Psychological management of anxiety disorders in childhood. *Journal of Child Psychology and Psychiatry*. 2001;42:999–1011.
  23. Bergman RL, Keller ML, Piacentini J, et al. The development and psychometric properties of the selective mutism questionnaire. *Journal of Clinical Child and Adolescent Psychology*. 2008;37(2):456-464.

24. Wong P. Selective mutism: A review of etiology, comorbidities, and treatment. *Psychiatry*. 2008;7:23–31.
25. Kaakeh Y, Stumpf JL. Treatment of selective mutism: focus on selective serotonin reuptake inhibitors. *Pharmacotherapy*. 2008;28:214–224.

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