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# Undetected autism subthreshold spectrum as risk factor for suicidal gestures in adulthood: a case report

## Summary

*Autism Spectrum Disorder (ASD) has been recently highlighted as potentially related to a higher risk for suicide. ASD features are often under-recognized, especially in subjects with high level of functioning. We present the case of a 21-year-old man who attempted suicide jumping from the third floor of his home. The patient had been treated during the last 3 years for a Schizoaffective Disorder. Patient's history showed the presence of signs and symptoms belonging to the realm of ASD. We hypothesize that the long-lasting presence of ASD features (instead of the schizoaffective symptomatology) was a clinically significant (but unrecognized) component that ultimately raised the suicide risk.*

***Key words***
Autism • Spectrum • Suicide risk

## Introduction

Autism Spectrum Disorder (ASD) includes different neurodevelopmental disorders characterized by social and communication impairments, restricted interests and repetitive behaviours [1]. These disorders are primarily expressed in childhood, with an onset around the age of 18 months. Due to brain plasticity, early interventions are crucial for having a chance of clinical improvement [2]. Unfortunately, mild autistic forms, especially those in patients with normal or above the average intelligence levels, remain unrecognized and untreated.

Recent research has demonstrated that suicidal attempts are frequent amongst patients with ASD, and that they occur more frequently in *'high functioning'* than in *'low functioning'* subjects [3]. However, the diagnostic relevance commonly deserved to depression, manic or mixed states, or psychotic symptoms occurring in these patients, may distract clinicians from the subtler ASD symptoms, even when related to the risk of a suicidal gesture.

At present, very little is known on suicide prevention in ASD patients. A recent review [4] highlighted how difficult it could be to prevent suicide among patients with ASD for several reasons: a) the inability of ASD subjects to describe their feelings and communicate their suicidal ideation to significant-ones; b) the confounding factor represented by the lifetime comorbidity for mood and psychotic disorders; c) the underestimation of ASD, especially in patients with *'high levels of functioning'*.

We discuss the case of a 21-year-old patient with a diagnosis of Schizoaffective Disorder hospitalized in the inpatient unit of the Psychiatric Clinic of the University of Pisa for a severe suicidal attempt, who presented a subsided autism subthreshold spectrum throughout his entire lifespan.

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## Case report

Mr. A. is a 21-year-old Italian male, graduated at the high school at the age of 18 and currently living with his parents and three brothers. The patient referred to our Clinic after a severe suicide attempt, by jumping from the 3rd floor window of his house. The fall was around four and a half meters. The patient suffered several injuries: a fractured hip and arm with a rupture of the anterior branch of the obturator artery, pulmonary lesions with massive pleural effusion and cranial trauma.

His longitudinal evaluation revealed no family loading for psychiatric illnesses, with no complications at birth, pregnancy and delivery. No developmental disorder or delays were referred. He had a mild form of stuttering with difficulties in pronunciation of |l| and |r|.

Mr. A.'s speech patterns were stilted and overly precise. He showed difficulties with comprehension of figurative speech and jokes. During childhood, he had no interest in socializing and making friends. He spoke with his brothers in a bizarre language with neologisms, making him difficult to understand. The patient manifested a selective interest towards classical languages and mythology to which he was strongly dedicated. During the last years of primary school, the patient had shown obsessive-compulsive symptoms, including hand washing, cleaning, checking things, repeating actions, hoarding. Moreover, he felt anxiety in social performances (such as speaking in front of the classmates). At home, he frequently had role disputes, especially with his mother, with poor adherence to rules, and severe difficulties when his expectations were disappointed. Several events of impulse dyscontrol were reported, mainly characterized by screaming and manifesting aggressive reactions towards his parents and brothers. According to relatives, such reactions were secondary to the need to give vent to his frustration and were predominantly impulsive, although in some cases, there were brief periods (approximately 30 minutes) of apparent calm between the disputes and the impulse dyscontrols. When attending the high school, he showed great interest in classic languages, such as Latin and Greek. However, he showed a worsening in 'emotional detachment', with reduced relational investment, and a 'formal' relationship style with peers. Mr. A. described an intense subjective difficulty in handling social situations, mainly due to an approach characterized by *'excessive moralizing attitudes'*.

At the age of seventeen, he described a subjectively stressful life event, namely, 'problems with academic performance'. Mr. A. had mood fluctuations, marked apathy, decreased energy levels, emotional liability and irritability, in comorbidity with obsessive rumination about his performance. In the subsequent months, he developed ideas of reference, persecution and suicidal ideation, with a first suicide attempt (drug ingestion). The patient referred to a psychiatrist who prescribed lithium carbonate (600 mg/day) and risperidone (3mg/day), with no response, and Mr. A. was admitted to the emergency services for a total of 4 subsequent suicide attempts (with ingestion of drugs, shampoo and hydrogen peroxide).

In November 2016, after a dispute with his parents, Mr. A. attempted suicide again, jumping from a 3rd floor window of his house. He was admitted to the Intensive Care Unit and after stabilization of his clinical condition, he was moved to the Psychiatric Clinic.

The mental examination at admission revealed the patient was alert, partially amnesic and oriented, able to procure attention but with difficulty in maintaining it. Mimic and gesture were poorly represented, sometimes staring upwards. The most compromised aspect of language was prosody: the speech was monotonous and flat. He showed a depressed mood, with feelings of sadness, inadequacy and guilt, mixed with persecutory delusions. According to his relatives, during the last few weeks before the suicidal gesture, the patient had little social interaction with people outside his family and was most content when keeping himself occupied in activities such as playing the violin. In verbal interactions, he tended not to focus his gaze on the speaker's eyes but instead on the region around the mouth. Mr. A. noted that watching faces intently and reading lips allowed him to compensate for his difficulty in understanding emotions and body language. The staff of the Psychiatric Inpatient Section noticed also the occurrence of binge-eating behaviours (especially when parents were present), and a persistent hypersensitivity to every kind of physical stimulus (including wearing clothes) expressed with an incoercible restlessness. However, the neurological assessment was negative, including Electroencephalography (EEG) and Computerized Tomography (CT).

The patient met the DSM-5 criteria for Schizoaffective Disorder and during hospitalization he was administered valproate (1250 mg/day) and paliperidone (6 mg/day) with improvement of his mood and remission of the psychotic symptoms.

## Instruments

Mr. A. was evaluated by means of the Ritvo Autism Asperger Diagnostic Scale-Revised (RAADS-r) [6], the Adult Autism Spectrum Self Report (AdAS SR) [7] and the Autism Spectrum Quotient of Baron-Cohen (AQ Adult) [8]. The Ritvo Autism Asperger Diagnostic Scale-Revised (RAADS-R) assists the diagnosis of adults with ASD [6]. The RAADS-R includes 80 claims of which 16 reverses and is separated in 4 subscales: Social interaction, Limited interests, Pragmatics and Sensory-motor. The AdAS-SR questionnaire includes 160 items exploring

the wide spectrum of manifestation of autism organized into seven domains: Childhood/adolescence, Verbal communication, Non-verbal communication, Empathy, Inflexibility and adherence to routine, Restricted interests and rumination, Hyper- and Hypo-reactivity to sensory input. Item responses are coded in a dichotomous way (yes/no) and domain scores are obtained by counting the number of positive answers. The AQ Adult is a widely-used questionnaire that provides a self-report measure of autistic traits to be used in adults with normal IQ. It comprises 50 questions, assessing 5 different areas: social skill, attention switching, attention to details, communication and imagination [8].
The axis I diagnosis of Schizoaffective Disorder has been validated with Structured Clinical Interview for DSM-5 Disorders (SCID-I).

## Results

Mr. A. scores were as follows:

- RAADS-R: 162/240 (Autism Spectrum cut-off ≥ 65);
- AdAS-SR: 87/160;
- AQ Adult: 34 (Autism Spectrum cut-off ≥ 32).

During the interview, a significant cognitive and behavioural rigidity emerged, as well as no interest in making friends and important difficulties in interacting with people, including clumsiness in interpersonal skills, prosody, and difficulties in understanding turn-taking in a conversation. In summary, the clinical evaluation and the scoring tests revealed an ASD, which as yet had never been diagnosed.

## Conclusions

This case report showed how high functioning in school might mask ASD symptoms present during childhood and adolescence of *'high-functioning subjects'*, as well as the onset of comorbid affective and psychotic symptoms subsequently covered the entire clinical presentation of ASD. However, we argue that the clinical mosaic of anxiety, depression, psychotic symptoms and subsiding long-lasting ASD features might produce a high-risk combination in this subgroup of patients leading to severe suicidal gestures. Indeed, the comorbidity issue is crucial in ASD [9 10 11 12 13]. ASD patients represent a *'unique challenge'* [14] for suicide prevention, since they have difficulties in expressing feelings and they show high rates of comorbidity for mood, anxiety and psychotic disorders. Suicidality is described in 10-50% of ASD clinical samples [15]. Less is known about subjects who attempted suicide but who received a psychiatric diagnosis other than ASD. The suicide risk is high in ASD subjects also because they tend to choose more lethal methods than patients with depression [16]. Impulsive behaviours, characteristics of individuals with ASD, are raising suicidal risk in this population [17 18]. While for depressed patients, imagining the process to death when choosing lethal methods may cause conflict, thus helping to stop a suicide attempt, subjects with ASD are poor at this, due to a lack of active imagination [19]. Finally, stereotyped motor movements, including behaviours such as head banging, face slapping or biting, might complicate the clinical evaluation of suicide risk. These movements are often repetitive, seemingly purposeless, and show no clear intention to harm oneself. However, they can be correlated to a suicidal gesture, subjectively perceived as a complex stereotypy [15].
Mr. A. described these phenomena. He reported that on several occasions he went out on the terrace or leaned out of the window and threatened to jump, as repetitive, automatic, almost routinely actions.
Another important challenge in ASD is related to the diagnostic issue of its prevalence in adulthood, considering that many patients with ASD, such as Mr. A., remain unrecognized [20]. The diagnosis of ASD in adulthood can be challenging because of a limited number of diagnostic tools specific to adulthood, the frequent lack of a detailed developmental history, and the frequent presence of comorbid conditions that are likely to complicate/cover the ASD phenomenology. Clinical diagnosis relies heavily on a detailed history of childhood and adult behaviours from informants, especially regarding verbal and social skills or repetitive behaviours.

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## Conflict of interest

None.

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