Autism spectrum disorder presenting with acute anorectic symptomatology: a diagnostic challenge

Summary
An increasing empirical evidence supports a relationship between autism spectrum disorder (ASD) and anorexia. Higher autistic traits are reported in anorexia and a subgroup of adolescent females with anorectic symptomatology could receive an ASD categorial diagnosis. In this case report of a 12-year-old female, we present clinical challenges in the recognition and diagnosis of ASD during hospitalization for anorectic symptomatology: ASD assessment during hospitalization did not support the diagnosis, while another ASD assessment one year later supported the diagnosis, reflecting a changing clinical picture in comparison with that predominant during the anorectic period. In conclusion, the phase of illness and the setting of assessment may influence the detection of a suspected underlying ASD in presence of an acute anorectic symptomatology.

Key words
Autism spectrum disorders • Anorexia • Hospitalization • Camouflage

Introduction
Given the higher prevalence of Autism Spectrum Disorders (ASD) in males, descriptions of clinical phenotypes of ASD may present a gender bias, with female phenotypical features possibly under-recognized and under-diagnosed. In this perspective, two recent empirical evidences began to fill the gap on the clinical knowledge about specific phenotypic features of ASD females, especially in those high-functioning: 1) "social camouflaging", i.e. coping strategies for use in social situations, including explicit techniques to appear social competent and to prevent others from seeing own social difficulties; 2) an association between ASD features and anorectic symptomatology, both at dimensional and at categorial levels: from a dimensional perspective, there is an emerging evidence that anorectic female subjects have more severe autistic traits in comparison with typical controls in relation to social skills, communication and flexibility, as resulting by a recent meta-analysis of the Autism-Spectrum Quotient in anorexia; from a categorial perspective, there is also an emerging evidence that diagnostic tools adopted for ASD, as the Autism Diagnostic Observation Schedule, 2nd Edition (ADOS-2), in clinical samples of adolescent anorectic females may reveal previously unrecognized ASD, at least in measure of 10% of assessed subjects.

In this case report we present clinical challenges in the recognition and diagnosis of ASD presenting with an acute anorectic symptomatology, suggesting that the clinical course and a longitudinal assessment may facilitate this goal.
**Case report**

NR, a 12-year old female, underwent attention at a secondary mental health service for children and adolescents due to an acute onset of restrictive eating behavior, that in few months caused a weight loss of about 10 kg. Lack of insight and of collaboration, and a life-threatening Body Mass Index (BMI) of 11.5 (weight: kg 23.2), indicated the need of hospitalization in a specific pediatric eating disorder ward. NR was hospitalized from March to June 2016 for a total of 99 days, with a BMI at discharge of 16.9 (weight: kg 33.9). The lack of collaboration with clinicians and of adherence to the specific eating program persisted during the first month of hospitalization; then, the introduction of a pharmacological therapy (fluoxetine 20 mg/die since day 31 plus olanzapine 2.5 mg/die since day 46) gradually induced a good adherence, in the second half of hospitalization. Despite its initial lack of collaboration, NR rapidly adjusted to hospitalization, without apparent suffering from being apart from parents.

The developmental history was suggestive of a possible unrecognized ASD: since infancy, repetitive rituals with dolls for falling asleep, rigid locations for toys in her room, and refusal of removing any stuff owned since early years (e.g. drawings, toys, clothes); at social level, poor eye contact, difficulties in socialization with peers and lack of close relationships. Growing up rituals of order were extended to the whole house, that was systematically tidy up when coming back from school; she also presented lack of interest for clothes and personal hygiene, with irritable mood and frequent temper tantrums. School achievement has always been on average, with a progressive increase of competitiveness. Considering improved collaboration, an assessment of ASD was performed during hospitalization with the ADOS-2 Module 3 in the first assessment, Module 4 in the second assessment) as inpatient and 16 months later as outpatient had different results in terms of scores and of final diagnosis: absence on ASD in the first case, evidence of ASD in the second case, also supported by other scales for high-functioning conditions (KADI, GADS, CARS-2-HF). Westwood and colleagues reported a similar diagnostic approach (ADOS-2 with patients and the Developmental Dimensional and Diagnostic Interview Short Version for parents) in a sample of 40 females aged between 12 and 18, recruited in an inpatient and day-patient eating disorder center: 21 out of 40 patients score above cut-off on the ADOS-2 suggesting a possible ASD, but only in 4 cases (10% of the sample) also the developmental history as reported by parents was also suggestive of ASD. In our case, the diagnostic mismatch between the first and the second assessment reliably reflects the longitudinal change of the clinical picture, that during hospitalization was polarized on eating disturbance and on lack of insight and collaboration, while thereafter was progressively characterized by evident social deficits and bizarre imagi-
nation. Therefore, in case of a suspected unrecognized ASD condition underlying an anorectic symptomatology with acute and atypical onset, the setting and the timing of assessment may influence the diagnostic process. The assessment during hospitalization may hinder a diagnosis, probably being ASD symptomatic expression attenuated by the hospitalization, and being judgments of parents as well as of the same clinicians polarized (and therefore biased) on the life-threatening behavior of restrictive eating rather than on social deficits. Once returned to usual daily-life contexts, the phenotypic expression of ASD traits may “re-emerge”, becoming more clinically evident especially in relation to social situations and social rules, that become more demanding in adolescence. In this perspective, a recent study  on young females with recent-onset anorexia reported that those who recovered from anorexia presented more severe impairments in the perception of social stimuli in comparison with those with first-episode anorexia, suggesting that social deficits may be differently expressed along the clinical course of the eating disorder, at least comparing clinical vs recovered states.

In conclusion, this clinical case suggests that the phase of illness and the setting of assessment may influence the detection of a suspected underlying ASD in presence of an acute anorectic symptomatology.

Conflict of Interest
The authors have no conflict of interests.

References