INTRODUCTION

The prevalence of Functional Disorders (FD) in pediatric population is unknown; some studies show they could constitute the 25-50% of all visits in pediatric units (Malas et al. 2017); for others, one out of three access could be linked to somatoform symptoms (Bujoreanu et al. 2014). Most cases of FD show neurological or gastrointestinal symptoms (Malas et al. 2017). ROMA IV criteria are used for the diagnosis of Functional Gastrointestinal Disorders (FGD), those can coexist with other diseases (Hyams et al. 2016) and psychiatric disorders, especially anxiety and mood disorders (Bujoreanu et al. 2014). Doctors treating these conditions, may feel frustrated by not identifying specific causes; in addition, the patient and his family may feel underestimated, their compliance to treatment might be compromised (Malas et al. 2017).

CASE REPORT

This 8-year-old boy has been treated for six months by pediatric gastroenterology for recurrent abdominal distention with pain.

He suffered for allergic asthma and he underwent surgery for inguinal hernia. Physical examination revealed soft systolic murmur, distended but treatable abdomen and generalized joint hypermobility. Auxological parameters were normal.

Systemic infections, electrolytic imbalances, thyroid disorders, inflammatory bowel disease, celiac disease and other autoimmune disorders, malabsorption were excluded during hospitalization (see figure 1).

Abdominal ultrasound and Magnetic Resonance Imaging showed abdominal distension from jejun to the rectum, endoluminal air-fluid levels without mechanical obstruction. The main causes of chronic intestinal pseudo-obstruction were excluded (see figure 1). He started veal-free, egg-free, poultry and milk-free diet, in addition to treatment with antibiotic, prokinetic and antispasmodic drugs for several months without benefits.

During last medical checks, he presented tics (eyes rotation), loss of appetite and regressive behavior, therefore he was referred to our pediatric neuropsychiatry department for evaluation. Further investigation revealed that the mother was suffering from depression and anxiety; moreover, patient started to feel bad when his mother resumed work. Lastly, the patient had reduced his scholar attendance until he stopped it.

Our assessment showed he had normal intelligence with discrepancy among indexes, he failed in auditory and visual attention test, but his planning skill was preserved (see table 1).

No evidence of specific learning disabilities was identified. In addition, the patient manifested difficulties of separation from his mother, deficit in sustained attention and obsessive thoughts.

He was diagnosed with somatic symptom disorder and separation anxiety; he started pharmacological treatment with sertraline and psychodynamic psychotherapy plus family therapy (once a week), but sessions were discontinued due to abdominal disease relapse.

He was hospitalized again and the causes of intestinal dyskinesia were excluded (see figure 1). The measurement of abdominal circumference differed from morning to evening (from 2 to 5 centimeters). Evidence suggested a FD, hence a diagnosis of aerophagia was made and he was treated with rectal catheter to evacuate air.

A psychotherapy journey was initiated but he presented relapses of anxiety symptoms, he refused to continue the therapy without his mother; he had regression in autonomies (like showering himself) and he had oppositional behavior at his father and school refusal.

DISCUSSION

In the case is possible to identify some characteristics typical of FD. Anxiety and mood disorders in family members show genetic predisposition for psychiatry diseases (Malas et al. 2017, Bujoreanu et al. 2014, Sitholey & Agarwal 2008); changes in family structure such as resumption of maternal employment (Malas et al. 2017, Bujoreanu et al 2014) is another frequent feature. Ultimately, protracted school absences are a common problem that can be considered a marker of social impairment (Bujoreanu et al 2014, Cozzi & Barbi 2020).
Table 1. Neuropsychological and psychodiagnostic assessment

| Wechsler Intelligence Scale For Children-IV (WISC-IV) |     |     |
|-----------------------------------------------------|-----|-----|
| Verbal Comprehension Index (VCI)                    | 120 WP |     |
| Perceptual Reasoning Index (PRI)                    | 100 WP |     |
| Intelligent quotient (IQ)                           | 95 WP |     |

A Developmental Neuropsychological Assessment (NEPSY II) Attention and executive functions

| Visual attention (AA)                              | 4 SP* |     |
| Design Fluency (DF)                                | 6 SP  |     |
| Inhibition A TIME: 10 SP                             | COMBINATES: 13 SP | ACCURACY: >75 %P |
| Inhibition B TIME: 7 SP                             | COMBINATES: 5 SP | ACCURACY: 6-10 %P* |
| Inhibition C TIME: 5 SP                             | COMBINATES: 9 SP | ACCURACY: 51-75%P |
| Animal Sorting (AS)                                 | 10 SP  |     |
| Auditory attention (AA)                             | 6-10%P* |     |
| Response set (RS)                                   | 6-10%P* |     |

A Developmental Neuropsychological Assessment (NEPSY II) Social perception

| Affect Recognition                                  | 14 SP  | Theory of Mind | 7 SP  |
| Tower of London test (ToL)                           | 38 Ts   |     |
| The bells Test                                      | -1.6 Zs | Accuracy measure | -1.54 Zs |

Kiddie-Sads-Present and Lifetime Version- DMS 5 (K-SADS-PL-5)

| Self-report: Tic Disorder (C), ADHD (C); OCD (B), EBD (B) | Parents-report: GAD (B), ADHD (B) |
|-----------------------------------------------------------|----------------------------------|
| Child Behavior Checklist 6-18 (CBCL)                      |                                   |

| Syndrome Scale Score                                    | DSM-Oriented Scales | Affective Problems | Anxiety Problems |
|----------------------------------------------------------|--------------------|--------------------|------------------|
| Anxious/Depressed                                       | C                  | C                  |                  |
| Withdrawn/Depressed                                     | B                  |                    |                  |
| Somatic Complaints                                      | C                  |                    |                  |
| Social Problems                                         | B                  |                    |                  |

Multidimensional Anxiety Scale for Children (MASC)

| Physical Symptoms                                       | Separation/panic | 64 Ts |
|----------------------------------------------------------|------------------|-------|
| Tense/Restless                                          | 51 Ts            |       |
| Somatic/autonomic                                      | 44 Ts            |       |
| Total                                                   | 47 Ts            |       |
| Harm Avoidance                                          | MASC Total       | 52 Ts |
| Perfectionism                                           | 36 Ts            |       |
| Anxious Coping                                          | 48 Ts            |       |
| Total                                                   | 42 Ts            |       |
| Social Anxiety                                          | Anxiety Disorder Index | 53 Ts |
| Humiliation/Rejection                                   | 52 Ts            |       |
| Performance Fears                                       | 58 Ts            |       |
| Total                                                   | 55 Ts            |       |

Children’s Depression Inventory (CDI)

| Total score                                             | 7 points         |     |

Children’s Yale-Brown Obsessive Compulsive Scale (CY-BOCS)

| Obsessive points                                       | Compulsive points | 1 |
|---------------------------------------------------------|-------------------|---|
| Total points                                            | 5/ Mild disorder  |   |

Swanson, Nolan, and Pelham-IV Questionnaire (SNAP-IV) Parents rating

| Inattention Scale                                      | Hyperactivity/impulsivity Scale | 1.11 AP |
|--------------------------------------------------------|---------------------------------|--------|
| 0.88 AP                                                |                                 |        |

Conners' Parent Rating Scale-Revised: Short Form (CPRS-R:S)

| Oppositional                                           | Cognitive Problems/Inattention | 56 AP  |
|--------------------------------------------------------|--------------------------------|--------|
| 65 AP                                                  |                                 |        |
| Hyperactivity                                          | ADHD Index                     | 62 AP  |
| 70 AP                                                  |                                 |        |

Legend: WP: Wechsler points; SP: standard points; %P: percentile points; Ts: T-score; Zs: Z-score; C: clinical; B: borderline; ADHD: Attention deficit hyperactivity disorder; OCD: obsessive-compulsive disorder; EBD: eating behavior disorder; GAD: generalized anxiety disorder; AP: average points; *: clinical point
Moreover, some studies suggest that patients with hypermobility syndrome, including those with generalized joint hypermobility, frequently have psychiatric comorbidities, especially somatoform and mood disorders (Lam et al. 2020, Wasiem et al. 2019).

Most of the studies seem to identify psychosocial factors involved in the pathogenesis of FD, emphasize the importance of a multidisciplinary approach on managing the case, and suggest that psychodiagnostic assessment should be performed simultaneously with other clinical examinations (Malas et al. 2017, Sitholey & Agarwal 2008, Morabito et al. 2014). These methods allow to fast diagnosis, avoiding inappropriate medical interventions (Malas et al. 2017, Bujoreanu et al 2014, Sitholey & Agarwal 2008, Morabito et al 2014). In this case report, the evaluation and treatment of psychological characteristics were carried out after months. The several hospitalizations and invasive procedures have caused an iatrogenic effect: over time, the patient experienced high levels of anxiety and new signs (motor tics) and regressive behavior.

Since the parents of the 8-years-old boy were very worried about unknown diagnosis, they increased the demand for interventions giving importance mainly to somatic symptoms while neglecting the emotional consequences. This type of patients have difficulty expressing distress through speech, they fail to develop a more functional coping for the expression of discomfort so that they are reinforced in their ‘sick’ role; the increase in pain manifestations is correlated with a worse outcome in these disorders (Caes et al 2017).

The presence of psychosomatic symptoms, loss of appetite and separation anxiety could indicate difficulty in expressing one’s identity in this family context (Minuchin 1974). Furthermore home rectal catheters used to evacuate air might have caused enmeshment with the maternal figure: on the one hand she isn’t able to contain her emotionality nor to regulate that of her son, on the other hand she is a rigid regulator of child’s physiological functions. She has become “the one who gives care and relief” but who also reduced his autonomy, leading him to regression to the early stages of life. The act of therapy itself seems to symbolize a “psychic incest” and this could cause feelings of anger that the child has expressed with oppositional behavior against the father.

**CONCLUSIONS**

FGD are common during childhood and cause frequent consultations. The described patient’s history highlights the importance of taking into consideration the frequent association with psychiatric comorbidities of...
these disorders in order to make, according with ROMA IV criteria, an early recognition that helps to reduce parental and patient anxiety and prevent unnecessary hospital admissions and medical investigations.

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**Correspondence:**
Consuelo Basile, MD
Multispecialty Department Child Neuropsychiatry, Department of Human Neurosciences, Sapienza University of Rome
Via dei Sabelli 108, 00185, Rome, Italy
E-mail: consuelo.basile@uniroma1.it