CASE REPORT

Attention deficit disorder with hyperkinesia. Reality and challenges. Case report

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ABSTRACT

Introduction: attention deficit disorder with hyperkinesia is one of the neurodevelopmental disorders. The diagnosis of this disease is essentially clinical, which constitutes a challenge for the professionals involved.
Patient information: seven-year-old white male schoolboy who has always presented marked restlessness, difficult behavioral control and low tolerance to frustrations. At school his attention is very dispersed and he has presented frequently indiscipline. In spite of having a good intellectual level, his learning is affected.
Conclusions: opportune diagnosis, followed by a multimodal, multidisciplinary and intersectorial treatment, is important in cases like this one.
Key words: attention deficit hyperactivity disorder; hyperkinesia

RESUMEN

Introducción: dentro de los trastornos del desarrollo neurológico se encuentra el trastorno por déficit de atención con hipercinesia. El diagnóstico de esta enfermedad es esencialmente clínico, lo que constituye un reto para los profesionales involucrados.
Información del paciente: escolar de siete años de edad, masculino, blanco, que siempre ha presentado intranquilidad marcada, difícil control conductual y baja tolerancia a las frustraciones. En la escuela su atención es muy dispersa y presenta indisciplinas frecuentes. A pesar de tener un buen nivel intelectual su aprendizaje está afectado.
Conclusiones: el diagnóstico oportuno, seguido de un tratamiento multimodal, multidisciplinario e intersectorial, es importante en casos como este.
Palabras clave: trastorno por déficit de atención con hiperactividad; hipercinesia

INTRODUCTION

ADHD (attention deficit hyperactivity disorder) is a neurodevelopmental disorder that has gained notoriety in recent years. Its diagnosis must be based on validated clinical criteria. The most recent are those of the DSM-5, which defines it as a behavioural and cognitive pattern that interferes with the

functioning of the individual who suffers from it.[1] It is characterised by hyperactivity, impulsivity and difficulty in maintaining attention, symptoms that usually appear early in life, often before the age of 12.[2,3,4,5,6,7,8,9,10,11]
This disorder significantly interferes with school performance and the quality of life of the patients and their relatives. It affects all spheres of life (play, school, interpersonal relationships, etc.) without exception. They often represent a heavy burden for their relatives who, as a general rule, need the guidance and support of the mental health team.[3,5,7]
The aetiology of ADHD is under investigation,[4] it is a disorder with a heterogeneous, multifactorial and complex aetiopathogenesis, in which a number of biological vulnerabilities interact with each other and with environmental factors.[1,4,6,10]
The estimated worldwide prevalence of ADHD up to 18 years of age is 5.29% and accounts for 20-40% of consultations in child psychiatry services. Long-term follow-up studies have shown that 60-75% of children with ADHD continue to have symptoms into adulthood. The ratio of boys to girls with ADHD is 4:1 and in adults 1:1, to constitute a major problem in neuropaediatric practice due to its early onset and its multifaceted and chronic nature. It is also the most common of all psychiatric disorders affecting neurodevelopment and one of the most frequent in school children aged six to seven years.[6]
The treatment of ADHD should be multimodal, including a psychoeducational approach to the family, the child and his or her environment, with a close relationship between professionals (doctors, psychologists and teachers) and family members who should be informed, advised, taught and supported. With this approach to treatment the result is greater than the sum of the parts.[7]
Each patient is a unique individual with whom, far from generalising, actions should be individualised. In terms of treatment, methylphenidate has been, for a long period of time, the drug of choice for ADHD. There are several other drugs with similar actions that are used with encouraging results[8]
The intention of this article is to alert to the need for early diagnosis of the clinical signs and symptoms of ADHD in order to facilitate its comprehensive management by professionals involved in the care of these patients.

PATIENT INFORMATION

Seven-year-old white male schoolboy, followed up by the psychology specialist since the age of four for hyperactivity and impulsivity. When he started school his behaviour worsened due to inadequate adaptation and he presented learning difficulties; he had frequent quarrels with his peers.
On that occasion he was admitted to the Mental Health Service of the University Paediatric Hospital "José Luis Miranda" in the city of Santa Clara, Villa Clara Province, due to marked restlessness and difficult behavioural control in all aspects of his performance. At school he showed scattered attention, frequent indiscipline, poor academic results and difficulties in muscle control, and in his community he had problems with several neighbours due to his bad behaviour, which generated a crisis for his family and his neighbourhood.

Personal developmental history:
Unplanned, wanted pregnancy with high obstetric risk due to threatened miscarriage in the first trimester, vaginal and urinary sepsis in the second trimester, sustained anaemia in all three trimesters and smoking by both parents. Institutionalised delivery, at term, at 40.5 weeks, dystocic, delayed and instrumented with forceps with signs of hypoxia at birth, Apgar test: 7/9. No other postnatal complications of interest.
Psychomotor development: according to age.
Abandonment of exclusive breastfeeding at two weeks of life with introduction of artificial breastfeeding. Irritability and frequent colic before the age of one year.
Validism: acquired early.
Personal pathological antecedents: no reference.
Family pathological history: father/alcoholism, paternal grandfather/psychiatric disorder not specified.
School environment: did not attend kindergarten. Attended non-formal tracks sporadically. He joined first grade in a rural school and presented difficulties in adaptation due to inability to take orders, follow school rules and sit still. He was disruptive to his peers, frustrated and misbehaved, had learning difficulties and frequent quarrels with his peers. He passed the targets during the readiness stage in first grade, but difficulties were observed in muscle control, frequent stuttering that was difficult to control, negativism and impulsivity. He concentrated poorly on activities, was habitually careless, suddenly stood up or ran out of the classroom and manipulated objects. Poor persistence in tasks. Did not listen to what was said and constantly interrupted. He answered the teacher's questions before the teacher had finished asking them. He had difficulties in interacting with his peers, who sometimes rejected him for disturbing or interrupting play, breaking toys, not following the rules of the games or having a teasing attitude towards them.
Family environment:
He was the only child of a two-year marriage. The father lives abroad and is financially and emotionally absent. He currently lives with his mother, stepfather and a younger brother. Discussions in the home are predominant due to the patient's disorganised behaviour. There are difficulties in communication and expression of affection. The mother constantly compares the child's behaviour with that of his brother or others of his age. It is a disorganised home, there are no established schedules or responsibilities, the disciplinary method used is punishment with deprivation of play with other children and the educational method is inconsistent.
Premorbid personality: the mother describes him as a whirlwind, restless, extrovert, uninhibited, impulsive, distractible, capricious and affectionate.

Clinical findings

Physical examination: motor clumsiness, difficulty in fine muscle control and fundus-figure perception.
Psychiatric examination: distractibility, fixation hypomnesia, irritability, low self-esteem, marked hyperkinesia, impulsivity, low frustration tolerance, negative behaviour, restless sleep, neglect of personal habits and difficulty in interpersonal relationships.

Diagnostic assessment

Psychometric studies: Conners test for teachers >16 (21 points) (index of suspicion of ADHD). Crespo test: distractibility, with accuracy rate below the norm for age and normal time. Memory plateau: difficulties in short-term memory. Bender test: marked organicity indices.

Free drawing: large and proportionate elements, with disordered type of colour seriations. Background-figure: difficulty in differentiating between them. Infantile Rotter test: low self-esteem and perception of family rejection.

Psychological study: hyperkinetic, distractible and impulsive child, broad language according to his age, starts several activities and does not complete any of them, average normal intellect, variable state of motivation, poor family stimulation and inconsistency in educational methods. Authoritarian stepfather, permissive mother with little formation of elementary habits during pre-school. Brought up in dysfunctional environment with inadequate distribution and incorrect fulfilment of roles. Impression of attention deficit disorder and hyperkinesia.

Psychopedagogical study: difficulties in attention and memory processes that affect learning, mainly in reading and writing. Syllabic reading, but achieves good comprehension of texts when asked questions of first, second and third level of interpretation. Poor handwriting, large, sloppy handwriting, sometimes omitting accents and letters and frequently writing in blocks, although he does his work quickly. Functioning below his real possibilities. Little formation of elementary habits. Significant difficulties in fine muscle control affecting writing. Areas of interest: drawing and sport.

Psychiatric social history and social investigation: severely dysfunctional family, domestic violence and poor economic and housing conditions. Low family per capita. In the neighbourhood there have been conflicts with several neighbours because the child is disrespectful, does not know how to behave properly and shows a predilection for throwing stones and sticks, making community management very difficult. Crisis due to family disorganisation and demoralisation. Absent paternal family. Good home-school relationship.

Play observation: he goes in and out of the consultation room, is negative, refuses to play with the objects offered to him and prefers to go out and run around; marked stimulation is needed for his cooperation. When you manage to negotiate with him, he approaches the play area, picks up a trolley, but does not persist in the activity, throws a ball, then picks up some pieces of an assemblable game and assembles them, suddenly stands up, picks up the doctor's stamp and stamps it on the bureau and the wall very quickly, gets irritated when it is taken away, is asked to draw and accepts. Draws a country landscape with very large elements and strong strokes, leaves the drawing halfway through to play with a lorry. When he structures an activity with appropriate fantasy, he is irritable and capricious. Needs stimulation to maintain attention in an activity. Does not interact with other children, when he does it is to snatch his toys and break them, so he is not accepted in play.

Electroencephalogram: signs of frontal cortical irritation.

Simple computerised axial tomography of the skull: no alterations.

On carrying out the clinical evaluation of this patient as a team, it is agreed that he meets the diagnostic criteria established according to current national

and international classifications for attention deficit disorder with hyperkinesia.[2,3,9]

Therapeutic intervention

In this specific case, an integrated therapeutic system was applied that included actions aimed at orienting the family and the school to facilitate management. The family was included in family psychotherapy and a multidisciplinary pedagogical strategy was designed to facilitate individualised attention and group integration with the participation of all the school's specialists, including, in addition to the teacher, the librarians, the Computer and Physical Education teachers and the Art Instructor, in order to promote the development of the pupil's interests and motivations. A sports area for football and plastic arts workshops were incorporated. Biological treatment was started with Natural and Traditional Medicine through auriculotherapy and pharmacological treatment with methylphenidate (tab 10 mg), one tablet at 8.00 am daily orally because it is considered the drug of choice in this disorder.

Follow-up and results

After discharge, follow-up was carried out by the mental health team of his health area in conjunction with the municipal Diagnostic and Guidance Centre; a good therapeutic response and a favourable evolution of the patient and his family were observed**.**

DISCUSSION

The diagnosis of ADHD is always clinical and can be made by a primary care paediatrician with the necessary training, knowledge and experience.[1,4,7,8,10]
To date, no diagnostic test is available. Diagnosis has to be based on a broad anamnesis to identify not only the core symptoms of the disorder, but also its associated areas of dysfunction. In this sense, different scales are available to assess the presence and dysfunction of ADHD symptoms in different areas of the patient's functioning (the clinic, at home or at school).[1]
The coexistence of symptoms of attention deficit, restlessness and impulsivity, rarely in isolation and onset of symptom onset before the age of seven years, are characteristic of the disorder. Typical symptoms of inattention, hyperactivity and impulsive behaviour in all situations (home, school and at play) can be associated with discipline problems, poor performance at school and accident proneness.[3,9]
More than 50% of children and adolescents diagnosed with ADHD are known to have at least one associated morbid disorder that may mask the diagnosis and delay treatment, thus clouding the prognosis. Associated disorders include conduct problems, emotional disturbances, difficulties at school, difficulties with peer and family relationships and adjustment difficulties. Conduct disorders always represent a factor of aggravation of these problems, with more possibilities of externalisation of behaviours and emotional difficulties. The associated morbidity increases with the age at which ADHD is diagnosed: in young adults, according to studies, it is associated with

substance abuse (14%), dissocial disorder (22%), psychopathological disorders and social problems - or both - (31%) and school failure (44%).[6] Differential diagnosis should be made with medical conditions and psychiatric conditions. Medical conditions to rule out include epilepsy, foetal alcohol syndrome, thyroid disease, anaemia and insufficient or poor quality sleep. All of these physical conditions can be comorbid with hyperactivity, but epilepsy can also be mistaken for hyperactivity. Within mental and behavioural disorders, dysphoric disorders and specific anxiety disorders, in particular chronic separation anxiety disorder, autistic spectrum disorders, conduct disorders and specific intellectual or learning disabilities must be ruled out.[9] Treatment is complex and multidisciplinary. In the case of children it requires the intervention of paediatricians, psychiatrists, teachers, psychologists, pedagogues; and its objectives include improving cognitive, behavioural and social functions, as well as increasing self-esteem. It is mainly based on two components: behavioural therapies and pharmacological treatment.[4,6,7,8,10] Early detection and treatment of children with ADHD are important because they help to control symptoms, improve school learning and social interactions and, consequently, the quality of life of the patient and his or her family environment. Several studies report that failure to identify and treat ADHD early leads to a deterioration in the quality of life of the patient, their family and environment, related to poor school performance, family problems, increased antisocial and delinquent activity.[11]

Informed Consent

Informed consent was requested from the parents following the protocols established when the patient was admitted to our hospital. Patient and family identifying information was removed, respecting their privacy. Finally, the research was approved by the Ethics Committees in Health Care Institutions.

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CONFLICT OF INTEREST

The authors declare that they have no conflict of interest.