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[Beyond hyperactivity. A retrospective in-depth analysis of 30 cases referred to the Lausanne University Psychological Clinic] (spanish),
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Summary

Hyperactivity is a behavioural disorder in children that has been recognized since 1968, when it was first mentioned in the Diagnostic and Statistical Manual of Mental Disorders. The affected children and adolescents are often very disruptive, show deficiencies in social integration and tend to be very unhappy. Hyperactivity represents a genuine advance in the investigation and description of childhood behaviour. It is not a neuropsychological or psychiatric invention.

While requests for diagnostic confirmation and for checking the effects of medication in respect of hyperactivity have increased in recent years, the clinicians at the Child and Adolescent Day Clinic from the Psychological Department at the University of Lausanne have nevertheless observed that the diagnosis is only confirmed in a minority of cases and that the level of comorbidity is high. We present the results of a retrospective analysis of a population of children and adolescents who were referred to the unit between 1997 and 2001. We wanted to check two hypotheses. Firstly, in a not insignificant proportion of cases, the hyperactivity serves as a mask that conceals deeper disturbances of intellectual, emotional, relational and social development and function. Secondly, likewise in a not insignificant proportion of cases, the possibility of hyperactivity is accepted too quickly and too readily by practitioners. The results demonstrated a wide variety of developmental disorders in the cognitive, affective and relational domains in children who were thought to be suffering from hyperactivity. Even in characteristic children, comorbidity was almost invariably present. The syndrome very rarely appeared in a pure state. In numerous cases we noted that the transition to drug treatment somehow justified the failure to resort to other types of treatment which we believed were indicated for the particular child.

Key words: hyperactivity, ADHD, TDAH, comorbidity, child neuropsychology, psychological clinic

Introduction

Although the syndrome of hyperactivity has only recently entered the spotlight in childhood psychiatry, it concerns a type of disruptive behaviour that has always been stigmatized under the descriptions of agitation, psychomotor instability and hyperkinesia. As neuropsychologists we would like to highlight the fact that the terms "psychomotor" and "hyperkinesia" describe a *motor* behaviour whereas, in our view, the psychological component, specifically the attention deficit, the impulsivity and excitement of ideas, justify a separate psychological syndrome in which the motor component is simply the outward manifestation.

Attention Deficit Hyperactivity Disorder, or ADHD, has almost become an "epidemic", given the recent multiplication of cases, which has been matched by the rising trend in the number of publications on the syndrome. Consult MEDLINE or PSYCLIT and you'll find that some 4000 scientific articles are now written about this subject each year (Lussier & Flessas, 2001). Our Child and Adolescent Day Clinic in Lausanne has also experienced a recent increase in the number of references to ADHD by all the unit's partners, general practitioners, paediatricians, parents and teachers.

The prevalence of hyperactivity is difficult to establish. Surveys conducted in the United States mention a level fluctuating between 3 and 10% of schoolchildren. This latter figure seems, in our view, to be very exaggerated and probably covers all childhood behavioural disorders. Worldwide, hyperactive boys outnumber hyperactive girls by three to one. In the broader sense, hyperactivity primarily disrupts the social functioning of the child. DSM-IV classes hyperactivity among the behavioural disorders and also mentions asocial problems, for example oppositional disorders with provocation. ICD-10 emphasizes the emotional problems in hyperactivity. But people are asking whether ADHD is a separate pathological entity or, on the other hand, a broader emotional and social developmental disorder. ADHD belongs to the group of scientifically suspect syndromes because it depends very specifically on the desired image of the child and the tolerance threshold for behavioural deviation accepted by educators, parents and teachers.

While we do not claim to be the sole arbiters of diagnosis, we are able to observe the fate of requests relating to hyperactivity, and we note that the subject is currently at the crossroads of differing cultures, specifically medical and media-based cultures. As regards the medical culture, attitudes are known to differ on both sides of the Atlantic. A genetic predisposition is involved in most serious and permanent behavioural disorders, and this finding, which is widely documented in the USA, is causing problems for families in Europe, who sometimes demand impossible genetic investigations. Others are compelling the child's entourage to accept him for what he is genetically, i.e. for what he is alleged to be by nature.

The neurochemical hypothesis, which suggests a malfunction of the frontostriatal connections, whether of anatomical or functional origin (Tannok, 1998; Pliszka et al., 1996), is used as the justification for targeted drug treatment (cf. Ritalin in particular, a psychostimulant that activates the inhibitory networks of behaviour). As interesting as this hypothesis remains at the

heuristic level, it does tend to view the whole cortex as a reflex organ of the frontal lobe rather than the control centre for social behaviour that also deals with responses to the environment.

From another standpoint, the psychogenic hypothesis is particularly espoused by the child psychiatrists, who stress the general nature of the anxiety disorders and educational problems in the cases of ADHD referred to them (cf. Ménéchal, 2001, pp.61-148).

But does hyperactivity actually exist as a primary condition, without any comorbidity, whether neurological or psychiatric? As European specialists, we believe that the syndrome in its current "epidemic" guise does not represent an illness in itself. We therefore find it difficult to comprehend the opinion of Lussier and Flessas (2001), who believe that the comorbidity is taken for granted in the United States, "whereas in Europe, the diagnosis is reserved solely for cases of ADHD with no other complication or comorbidity" (op.cit., p.328). We believe quite the opposite, i.e. that the level of suspicion and the perspective of a wide variety of etiologies is greater in Europe than in the Americas

As regards the media-based culture, we believe that the specialists, the pharmaceutical industry, the educators (parents and teachers) and the media all share the responsibility for the "epidemic" that has been brought about by the growth of this new pathological entity.

The aim of this contribution is to investigate what happens to requests relating to hyperactivity in the light of psychological observations, interviews, reviewed histories, tests and, finally, discussions with the patients concerned and their families. More practically, we wanted to review the case files for the years 1997 to 2001, during which period we have observed an increase in the references to hyperactivity. We also collated all the information relating to expectations, medication, the results of treatment and comorbidity.

Method

Subjects

The 200 most recent case files of the Child and Adolescent Day Clinic of the Psychological Department at Lausanne University, Switzerland, were reviewed and analyzed with the aid of a standard questionnaire that was completed by each researcher. Beside the services offered to the community, this day clinic is devoted to the training of University students. This means that the case files, though relatively few in number in relation to a clinical counselling practice, are well documented, while the case histories are carefully scrutinized and the developmental assessments are complete. The accumulated data were processed by descriptive statistical methods. The most recent case dated from autumn 2001, whereas the oldest case was first brought to our attention in 1997.

Procedure

In the case of a non-specific request relating to ADHD, the psychological examination included observation of the cognitive, affective and social development of the child or

adolescent. In the case of a specific request (pretest prior to medication envisaged by the doctor for example), the traditional psychological examination was supplemented by a neuropsychological investigation of attention-related and executive functioning. In fact, we agree with Lussier and Flessas (2001) when they state that "the neuropsychologist is best placed to evaluate the extent of the attention deficit and its potential impact on learning" (op. cit., pp.328-329).

Result 1. History

Incidence

In 30 of the 200 cases (15%), hyperactivity was explicitly mentioned in the oral or written request before the first meeting or during the first interview. The following descriptive statistics relate to these 30 cases.

Sex distribution

The ratio of boys to girls was five to one.

Ages

The 30 cases suspected of hyperactivity had a mean age of 10.3 years with a standard deviation of 2.5 (complete sample: mean: 9.7, standard deviation: 3.3). The youngest patient presenting with hyperactivity was 5 years old and the oldest 14 years old (complete consultation sample: from 2 to 23 years). Although there was no age difference between the group of hyperactive children and the complete sample, we noted that those in the experimental group were all of school age.

Parents' expectations

The expectations of parents were very divided: 37% were positive from the outset about the psychological examination, and were either requesting confirmation of what they believed to be a certain diagnosis (13%), or were hopefully seeking a solution to their child's educational problem (24%). By contrast, 30% were not expecting anything and were simply responding to recommended advice. 13% were clearly sceptical both as regards the hyperactivity and what the psychological examination might offer. The final fifth of expectations covers a multitude of responses, ranging from surprise, through caution, to impatience. While we were struck by the militancy of certain parents who were members of the Association of Parents of Hyperactive Children and who would make their own diagnosis of hyperactivity on the basis of questionnaires, for example, we noted that the enthusiasm of the parents for a diagnosis of hyperactivity was generally very measured.

Origin of the idea of hyperactivity

In most cases (60%), it was the doctor, i.e. the paediatrician, who first suggested the diagnosis. In a third of cases it was the parents and their own friends who were alerted by the media.

Specified comorbidity

In the great majority of cases (80%), several types of distinct and persistent behavioural problems were described by the parents. Academic failure was not the rule, but nevertheless affected 40% of the children and adolescents. A similar proportion (37%) showed an inadequate development of social skills.

Medication

A third of the children were not taking Ritalin at the time of the first consultation. The subjective results for those receiving Ritalin treatment, which was often prescribed at the request of the parents, were as follows:

From the standpoint of the children themselves, approximately a quarter felt that the treatment made them happier. Half reported feeling no effect. The responses of the final quarter of patients varied between doubt, indifference and negative effects.

The reactions of the teachers to the effects of Ritalin could be divided into two camps: effects that can be termed positive, in the sense of an improvement in the child's behaviour, were reported in half of the cases. An absence of effect (no effect observed and indifference) was reported by the other half of the teachers. Negative opinions (changes in behaviour that were opposite to the desired effect) were rarely expressed by the teachers.

Finally, it was the parents that viewed the effects of Ritalin in the most favourable light. Almost two-thirds of parents noticed an improvement in the behaviour of the child receiving Ritalin. A quarter had not noticed any effect. A small minority did not express an opinion and were relatively indifferent to the prescription of this medicine.

Behavioural and physical development

The history revealed the existence of developmental problems in early childhood and risk factors in two thirds of cases. Early problems with behaviour and sleeping and the presence of typical features of ADHD from birth were apparent in almost half of the cases (43%). Dystocia, a health problem from birth and prematurity in the case of twin births represented risk factors in 23% of cases. Only a third of the histories did not reveal a problem in early childhood.

Family situation and family dynamics

Foreigners or the children of foreigners were not overrepresented in the sample: 83% of the patients were Swiss, had been born in Switzerland and brought up in French-speaking Switzerland.

Nor was anything special apparent about the marital status of the parents: 90% were living with both married parents.

As regards the mother-child relationship, a relationship of mutual dependency and overprotection of the child was observed in half of the cases. Only in a quarter of the situations was nothing unusual noted by the diagnostician. Particularly difficult relationships were apparent in the remaining quarter. These were characterized by maternal anxiety, rejection, mutual aggression and frequent conflicts. It should be noted that the mother was in the forefront in the argument concerning the social and scholastic integration of her behaviourally disturbed child.

As regards the father-child relationship, and apart from those cases where the clinician did not report anything unusual (40% of cases), the dominant feature was an attitude of blocking off, detachment and distance resulting from the father's inability to tolerate the situation (25% of cases). Some fathers unconditionally agreed with the mother (15%), while others readily and unreservedly sanctioned the behaviour of the child (10%) and the educators (10%).

We looked at the type of education provided to the children in our interviews with the parents. This was not specified in a third of the cases. In the remaining two thirds of cases, on the other hand, a demanding, very religious, and over-controlling form of education dominated (27%). An overprotective type of education (15%) was not very common, and an equal proportion of parents were inconsistent in their views of the education (15%). Children brought up without any constraints or limits only accounted for 10% of cases, according to the parents. This particular observation may surprise those who believe that a free, unrestricted type of education is a possible cause of hyperactivity.

The mental health of each of the parents was also checked. Whether because of their greater openness or feelings of guilt, the mothers were more likely to disclose their own difficulties than the fathers.

As far as the mothers were concerned, the maternal responsibility itself seemed to weigh heavily on some, who said that they found it very difficult to cope with the painful situation and complained of suffering from anxiety and exhaustion. Some of the mothers in this group were undergoing psychotherapy. In order of importance, a number of women described a particularly difficult personal history. Next were various physical problems: attacks on health, endogenous depression. Finally, certain mothers blamed their own immaturity in the face of motherhood and revealed that their approach to relationships was marked by ambiguity and dependence.

Only a few isolated fathers showed corresponding features. None of the categories applicable to the mothers applied to more than one of the fathers.

Finally, we attempted to collate the information relating to the parents' life as a couple. While "nothing unusual" was reported for half of the cases, serious tension, arguments and conjugal violence were acknowledged in 20% of cases. But a pathogenic relationship was also present between some partners (7%). Couple psychotherapy, mediation and, finally, separation were

encountered in isolated cases. But we should guard against generalization: one cannot state that, generally speaking, the problems of the couples were at the root of the behavioural problems.

Academic progress of the child

Most of the children and adolescents were regular school attenders. Two thirds of these pupils were following the normal curriculum for their age. One child was even a year ahead. Nevertheless, small class sizes or private education had proved necessary for a quarter of the children (23%).

In several pupils, hyperactivity went hand in hand with various specific learning difficulties: the number one problem cited was difficulty with writing (17% of cases), followed by general problems with writing and arithmetic (13%). There were isolated instances of pupils with impaired speech development (signs of dysphasia) or a pupil presenting with visuospatial impairment (signs of dyspraxia).

Results. 2. Observation.

Signs and symptoms of ADHD

Restlessness was rarely observed during the consultations (17% of cases). Impulsiveness and clinical attention problems were rarer still (13% in each case).

Attention

Psychological and neuropsychological attention tests are slightly more sensitive than direct observation and revealed objective difficulties in less than a quarter of cases (23%).

Cognitive tests and academic learning

At the level of intellectual development and learning, the tests of Wechsler (WISC-III) and Kaufman & Kaufman (K-ABC) revealed normal results in two thirds of cases.

The tests that were more sensitive to the difficulties of hyperactive children are listed in Table 1, sorted by category and failure rate.

The highest percentages were recorded for difficulties with decoding during reading and immediate recall, whether verbal (number recall, word order) or visuospatial (spatial memory).

Table 1. Sensitive tests, sorted by failure rate.

Skill assessed	Test	Failure rate
reading-decoding	K-ABC	33%
number recall	K-ABC & WISC- III	25%
spatial memory	K-ABC	24%
word order	K-ABC	22%
arithmetic	K-ABC & WISC-III	19%
constructional praxia	K-ABC & WISC- III	19%
coding	WISC-III	19%
hand movements	K-ABC	18%
oral/verbal development	K-ABC & WISC- III	18%

However, if one refers to scales to evaluate a development quotient, only a fifth of the pupils referred for hyperactivity showed a score below normal (lower than one standard deviation below the mean), and this only applied to the Wechsler performance scale. It should also be noted that the results overall were well balanced, with just as many high scores as low scores.

To sum up: the cognitive picture is not one of intellectual deficit, but rather of certain composite learning difficulties, particularly reading, accompanied by the attention problems revealed in the immediate recall tests.

Diagnostic opinion

For the sample under review and according to strict DSM-IV criteria (APA, 1994), the diagnosis of hyperactivity was confirmed in five out of thirty cases (just 17%).

Comorbidity diagnosed

In order to investigate comorbidity in the case of hyperactivity and to determine possible alternative diagnoses, we listed all the differential syndromes observed by our experienced clinicians (Lecturers and Professors of neuropsychology and clinical psychology). Despite frequent combination of syndromes, we restricted choice to only one prominent syndrom characteristic of each case. Table 2 shows the differential syndromes both for confirmed hyperactivity and for alternative diagnoses.

Table 2. Differential syndromes considered for hyperactivity suspicion

Differential syndromes	Comorbidity of confirmed hyperactivity	Alternative diagnoses when hyperactivity was not confirmed
None	1	4
Severe family disturbances		7
Specific learning disabilities	1	3
Oral language delay	1	2
Massive anxiety in the child	1	1
Child's uncontrolled aggressiveness	1	1
Massive anxiety in the mother		2
Mental retardation		2
Personality disorder in a twin		1
Psychotic mental functioning		1
Parental psychological maltreatment		1

Regarding confirmed hyperactivity, no dominant comorbidity emerged. We can find emotional, behavioural as well as neuropsychological associated syndromes in 4 out of 5 cases.

When hyperactivity was not confirmed, we found alternative diagnoses in 80% of the cases. A variety of neurodevelopmental disturbances were observed (Specific learning disabilities, oral language delay, mental retardation, personality disorder after prematurity and dystocia in a twin, psychotic mental functioning). Severe family disturbances were the most common diagnosis. Emotional and behavioural disorders were detected, often shared by children and parents, sometimes up to the point of psychological maltreatment of the child.

In one hyperactive child, no comorbidity was observed. In other words, one finds only one child corresponding to a pure case of hyperactivity,

Interestingly four children out of 200 were referred to the day clinic with suspicion of hyperactivity and revealed neither hyperactivity nor any alternative diagnosis. This can be explained by the abuse of the label in order to benefit from a thorough psychological investigation, the very reason of which remains unrevealed to the neuropsychologist/psychologist.

Ritalin

Nineteen patients had been taking Ritalin before the first consultation in our unit; in three cases, the diagnosis of hyperactivity was confirmed on the basis of observation and according to the DSM-IV criteria (APA, 1994).

The other eleven patients had not been taking Ritalin; the diagnosis of hyperactivity according to the same criteria applied in two of these cases. Ritalin therefore tended to be prescribed too hastily in relation to the diagnostic confirmation procedure.

Although the children and parents were often being seen for a second opinion, after their own doctor had prescribed Ritalin, they still wanted to know whether we thought that the drug treatment should be continued. Our advice was based both on the history of the case and on the results of our clinical and experimental observation. We favoured continuation of the drug therapy in just 20% of cases, more out of a lack of conviction than simple reservation. By contrast, the overall combination of factors pointed to other causes of the problems presented by the family, thus suggesting that other more targeted treatments would be more appropriate, specifically in the case of family problems, anxiety problems and learning difficulties.

Significance of Ritalin for the family

The reactions to our statements and advice allowed us to discover the significance that Ritalin possessed in the case of those children receiving this medication. The reactions ranged from indifference to unwavering militancy. From one extreme to the other, we encountered parents who did not accord any significance to the drug (13%), those who accepted it for lack of any other diagnosis (13%), sceptics (13%), parents who had asked whether this drug might just be able to help (10%), those who placed real hope in the drug (7%), those who acknowledged an effect and who considered this a tolerable form of drug use (3%), parents who did not agree on the medication, but at least one of the partners were keen to try it (3%), those who firmly believed in resorting to Ritalin (13%) and, finally, militant supporters of the ADHD syndrome and its drug treatment (13%).

To sum up: those who acknowledged the most beneficial effects of Ritalin, the parents, demonstrated the complete set of reactions, whether very disillusioned, full of hope, or still marked by militancy. This reveals just how much the desire for harmonious intrafamilial relationships prompted them to accept whatever the doctor or psychologist suggest.

Conclusions

In a group of children and adolescents referred to the psychological day clinic for hyperactivity, this diagnosis was only confirmed in one case out of five. It should be noted, however, that the sample reviewed was a clinical one and originated from a background of psychological counselling, which has its own recruitment peculiarities. The sample was therefore not representative of the general population. We think that the disadvantage of recruiting a small sample of patients in our study was balanced by the fact that every consultation led to an in-depth observation due to the training of advanced psychology students.

Despite these reservations, we have shown that Ritalin tended to be prescribed too hastily in relation to the confirmation of the diagnosis.

The comorbidity was high in the children referred for hyperactivity. We found a psychological aetiology behind the behavioural problems in half of the cases, and a neuropsychological aetiology in a third. This suggests that, on the one hand, hyperactivity in its pure state is rare and, on the other, that symptoms of hyperactivity are frequently the result of a variety of developmental problems.

We believe that hyperactivity does not mask a single dominant pathology, but a variety of developmental problem situations. Generally-speaking, the suspicion of hyperactivity tends to result from a very pragmatic search for a child model that can be adapted to difficult conditions. Frequently referred by the paediatrician, but also attending on the initiative of the parents, the majority of cases attending our unit for hyperactivity were suffering less from the ADHD syndrome than from various disorders of cognitive, emotional, relational and social functioning that had not hitherto been diagnosed. In light of this situation, we think that this trend could prove particularly harmful

- 1) at the time of the provisional diagnosis, with the resulting premature easy access to medication for all;
- 2) when it prevents scientific verification (here, specifically aimed at the parents' attitude);
- 3) when it discourages differential diagnosis (specifically aimed at practitioners).

In this context, the drug treatment of these children may legitimize the lack of other forms of treatment. This alternative appears regrettable in our view, particularly where in-depth observation and differential diagnosis suggest that a variety of therapeutic options would be more appropriate and thus remove the burden of the supposed phenotype's neurological origin.

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References

- APA (1994). *Diagnostic and Statistical Manual of Mental Disorders*. Washington, DC: American Psychiatric Association.
- Barkley, R.A. (1997). Behavioural Inhibition, Sustained Attention and Executive Functions: Constructing a Unifying Theory of ADHD. *Psychological Bulletin*, 121, 65-94.
- Lussier F., & Flessas, J. (2001). *Neuropsychologie de l'enfant*. Paris: Dunod.
- Ménéchal, J. (ed.) (2001). *L'hyperactivité infantile. Débats et enjeux*. Paris: Dunod.
- Pliszka, S.R., McCracken, J.T., & Maas, J.W. (1996). Catecholamines in Attention Deficit Hyperactivity Disorder: Current Perspective. *Journal of American Academy of Child and Adolescent Psychiatry*, 35, 264-272.

Tannock, R. (1998). Attention Deficit Hyperactivity Disorder. Advance in Cognitive, Neurobiological and Genetic Research. *Journal of Child Psychology and Psychiatry*, 39, 65-99.

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