ATTENTION DEFICIT HYPERACTIVITY DISORDER IN A YOUNG ADULT

G S Ungvari, K Y C Lai, C K Wong

ABSTRACT

A case of attention deficit hyperactivity disorder in a young adult is reported. The essential features of this probably under-recognised psychiatric syndrome are briefly summarised.

Keywords: *attention-deficit, hyperactivity, impulsivity, methylphenidate*

SINGAPORE MED J 1996; Vol 37: 544-546

INTRODUCTION

According to traditional clinical wisdom, cardinal symptoms of childhood hyperactivity viz impaired attention and overactivity usually accompanied by impulsivity, are outgrown by the time of adolescence. However, accumulating evidence suggests that the hyperactive child syndrome, termed as Attention Deficit Hyperactivity Disorder (ADHD)[1], may continue into adolescence and adulthood[1-3].

The following case report of ADHD in a young adult illustrates the difficulties of diagnosis and management of this probably common, mostly unrecognised, and often treatable psychiatric syndrome.

CASE REPORT

Mr A, a 19-year-old male, was admitted for a psychiatric assessment following a stunningly clumsy, non-violent offence which resulted in a court hearing and suspension from work.

Mr A's premature (35/40) birth was preceded by an antepartum haemorrhage due to placenta previa. Postnatal jaundice and considerable weight loss prolonged his hospitalisation to 20 days after delivery. Despite the perinatal complications, his developmental milestones were normal. There was no remarkable past medical history nor previous psychiatric contact. He was a social drinker and did not regularly abuse illicit drugs. Mr A came from an emotionally stable and financially successful family with no history of psychiatric illness.

The behavioural problems dated back to early childhood. Mr A was an impatient, abrupt and stubborn child. He was hot-tempered though not inconsiderate in conduct. At school, he seemed to have an average intellectual capacity but a diminished attention span and distractibility which led to poor academic results and disruptive behaviour. After high school, he took up a job at a petrol station and his work record was satisfactory until his recent offence. Otherwise, he had no criminal history. He has always been sociable and loyal to his friends and his stable girlfriend.

On admission, physical examination including detailed neurological evaluation revealed no abnormalities. Repeated psychiatric interviews during the 3-week observation period excluded any major psychiatric disease but found him to be an immature and abrupt young man who was prone to react impulsively upon insignificant stimuli. Psychological testing disclosed an average level of intelligence (IQ = 108) without signs of ongoing organic impairment or major psychoses, but it emphasised his ability to control hostility and anger.

Normal and sleep-deprived EEG revealed a moderately abnormal record consisting of a mildly disorganised background activity with episodic, abortive generalised theta outbursts. Cytogenetic report showed normal male karyotype.

To confirm the impression of a persisting ADHD, both parents and two of Mr A's former teachers were asked to retrospectively evaluate the patient's childhood behaviour by filling out the Conners' Abbreviated Questionnaire, a rating scale designed to ascertain the diagnosis of childhood ADHD[4]. Furthermore, the parents completed the Wender's Symptom Checklist[2], another diagnostic instrument comprising the most characteristic symptoms of adult ADHD. His behaviour was rated on both scales on all occasions as near the maximum severity.

Methylphenidate was started at 5mg bd and the dosage was cautiously increased up to 20 mg bd over two weeks, reaching 0.60 mg/kg. According to the patient's and his relatives' unanimous account, a dramatic change took place; Mr A felt calm and collected as never before, he slowed down and the temper tantrums disappeared. After two months' treatment both parents' ratings on the Wender's Symptom Checklist nearly halved. No side effect of methylphenidate treatment was reported. At 4-month follow-up he was free of symptoms, successfully coping with the demands of his new job. A controlled EEG did not show the generalised theta waves seen previously. Psychological reassessment indicated marked improvement in concentration. (The psychologist was "blind", ie completely unaware of the type of treatment implemented).

After 6 months, he stopped the medication and was lost to follow-up. We managed to trace him 6 years later. He lived at the fringe of society, occasionally abusing alcohol and cannabis and taking up odd jobs. He still had a short attention span and remained restless and abrupt.

DISCUSSION

This case highlights almost all the important features of ADHD in adulthood, namely: (a) the history of childhood ADHD and the continuing presence of symptoms into adulthood; (b) a tendency toward anti-social behaviour; (c) lack of any major psychiatric disorder, and (d) good therapeutic response to stimulant medication.

Current official classifications do not have a separate category for adult ADHD. At present, the Utah-criteria[5] provide the most cogent guidelines for the diagnosis of adult ADHD. They require

Department of Psychiatry
Chinese University of Hong Kong
11/F Prince of Wales Hospital
Shatin, NT
Hong Kong

G S Ungvari, PhD, FRANZCP
Lecturer

K Y C Lai, MRCPsych
Lecturer

C K Wong, MD, FRCPsych
Reader and Chairman

Correspondence to: Dr G S Ungvari

the persistence of childhood hyperactivity and attention deficit into adulthood and the continuous presence of at least two of the following symptoms: affective ability, inability to complete tasks, explosive temper, impulsivity and stress intolerance. Previous or concurrent diagnosis of schizophrenia, affective and organic psychoses, schizotypal and borderline personality disorder and mental subnormality invalidates the diagnosis of adult ADHD.

Adult ADHD is frequently accompanied by alcohol and/or substance abuse, generalised anxiety disorder, antisocial personality disorder and hysteria[2,3,5-9]. The male/female ratio is not known; in the published series, males predominate. Research to clarify the underlying pathophysiology of adult ADHD has just begun and has not yet yielded conclusive findings[10, 11]. Whether or not adult ADHD can develop without the presence of its childhood homologue is another, yet unresolved, issue.

A number of retrospective and controlled prospective long-term follow-up studies of childhood ADHD have documented its long-term psychiatric and social outcome[2,3,5-9]. A full-blown or rudimentary syndrome of ADHD persists into adulthood in approximately 40%-80% of childhood cases, depending on the research methodology applied. The majority of this population shows poor academic performance, problems with self-image and social adjustment. Serious antisocial behaviour is another common sequalae reaching 50% in controlled studies[6]. As noted above, alcohol and substance abuse, hysteria and antisocial personality disorder are the most frequent co-morbidity in adult ADHD[3,7,8]. All in all, an average of 50% of formerly hyperactive children suffer from diagnosable psychiatric disorder in a ten-year follow-up[3].

A number of controlled, double-blind studies suggest that a considerable percentage of adult patients with ADHD are responsive to psychostimulants. Depending on patients selection and diagnostic criteria, 25%-57% of the patients showed moderate to marked improvement to methylphenidate which is the best studied of the stimulants[2,5,12,13]. The severity of childhood ADHD and the presence of current hyperactivity seemed to be positively associated with response to stimulants[5].

The recommended average daily dose of methylphenidate is 0.60 mg/kg, given in the morning and early afternoon since methylphenidate has a 4-6 hour therapeutic action[5]. Successful treatment results in improved attention, resistance to stressful stimuli, decreased frequency and severity of explosiveness. Subjectively, patients feel calmer, more energetic and balanced, experiencing less tension, mood fluctuation, anger and distractibility.

Side effects are relatively rare - 22% was the highest reported rate in a series[5] – and usually mild, consisting mostly of insomnia, overstimulation, anxiety and weight loss[2,5,13]. Dose adjustment easily alleviates the side effects. It is agreed that in therapeutic doses, addiction to stimulants does not develop in ADHD individuals. Moreover, even previous or ongoing alcohol and/or substance abuse do not necessarily preclude stimulant treatment although it requires special attention[7,14]. As soon as the patient stops the medication, the symptoms recur, thus long-term stimulant treatment is necessary. The mode of action is poorly understood; the stimulants alter the balance of neurotransmitters in the CNS. To date, no consistent biochemical profile has emerged[15].

In our opinion, the initial diagnosis and management of adult ADHD is the psychiatrist's responsibility. In exceptional cases, after having consulted a child psychiatrist, a general practitioner might endeavour to treat a patient with adult ADHD, provided: (a) there is no doubt about the diagnosis, nor suspicion of other psychiatric disorder including substance abuse; (b) the patient is physically healthy, and (c) a sufficiently good relationship with the patient and his/her family has been established. The optimal dose of methylphenidate (0.60 mg/kg) should be reached gradually over 2-3 weeks. If the optimal dose has been titrated and the beneficial effects of medication are not observed within 4 weeks, the responsiveness is rather doubtful and the drug should be stopped. Bearing in mind the danger of addiction, only 2-3 weeks' supply should be prescribed at any one time.

In conclusion, we wish to emphasise the significance of adult ADHD. Among Caucasians, the prevalence of childhood ADHD is estimated at 1%-10%[16] and that of adult ADHD as 2.5%[7], depending on varying diagnostic criteria and methodology. A recent survey[17] of Chinese primary school population in Hong Kong found 2% prevalence of ADHD for boys and 0% for girls. Therefore, it can be hypothesised that approximately 1% of the adult Chinese male population in Hong Kong suffers from the consequences of the disorder. Empirical studies indicate that the adult ADHD comprises a poorly recognised population prone to substance abuse and/or antisocial behaviour[2,3,5-9]. In addition, it is of importance that a sizeable proportion of this population may respond to stimulant medication. Both for its estimated prevalence in adults, and association with substance abuse and anti social behaviour, adult ADHD should receive more medical and public health attention.

References

1. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 4th Edition. Washington, DC: American Psychiatric Association, 1994.
2. Wender PH, Reimherr FW, Wood DR. Attention deficit disorder in adults. Arch Gen Psychiatry 1981; 38: 449-56.
3. Cantwell DP. Hyperactive children have grown up. Arch Gen Psychiatry 1985; 42: 1026-8.
4. Goyette CH, Conners CK, Ulrich RF. Normative data on revised Conners' parent and teacher rating scales. J Abnorm Child Psychol 1978; 6: 221-6.
5. Wender PH, Reimherr FW, Wood DR, Ward M. A controlled study of methylphenidate in the treatment of attention deficit disorder, residual type, in adults. Am J Psychiatry 1985; 142: 547-52.
6. Sattersfield JH, Hoppe CM, Schell AM. A prospective study of delinquency in 110 adolescent boys with attention deficit disorder and 88 normal adolescent boys. Am J Psychiatry 1982; 139: 795-8.
7. Wood DR, Wender PH, Reimherr FW. The prevalence of attention deficit disorder, residual type, or minimal brain dysfunction, in a population of male alcoholic patients. Am J Psychiatry 1983; 140: 95-8.
8. Wender PH. The hyperactive child, adolescent and adult: attention deficit disorder during the lifespan. New York: Oxford University Press, 1987.
9. Mannuzza S, Gittelman-Klein R, Bonagura N, Malloy P, Giampino TL, Adalli KA. Hyperactive boys almost grown up. V. Replication of psychiatric status. Arch Gen Psychiatry 1991; 48: 77-83.
10. Kuperman S, Kramer J, Loney J. Enzyme activity and behavior in hyperactive children grown up. Biol Psychiatry 1988; 24: 375-83.
11. Matochik JA, Liebenauer LL, King AC, Szymanski HV, Cohen RM, Zametkin AJ. Cerebral glucose metabolism in adults with attention deficit hyperactivity disorder after chronic stimulant treatment. Am J Psychiatry 1994; 151: 658-64.
12. Wood DR, Reimherr FW, Wender PH, Johnson GE. Diagnosis and treatment of minimal brain dysfunction in adults. Arch Gen Psychiatry 1976; 33: 1453-62.
13. Mattes JA, Boswell L, Oliver H. Methylphenidate effects on symptoms of attention deficit disorder in adults. Arch Gen Psychiatry 1984; 41: 1059-63.
14. Stringer AY, Josef NC. Methylphenidate in the treatment in two patients with antisocial personality disorder. Am J Psychiatry 1983; 140: 1365-6.
15. Zametkin AJ, Karoum F, Linnoila M. Stimulants, urinary catecholamines and indoleamines in hyperactivity. Arch Gen Psychiatry 1985; 42: 251-5.

16. Taylor E. Syndromes of overactivity and attention deficit. In: Rutter M, Hersov L, eds. Child and adolescent psychiatry. 2nd Edition. Oxford: Blackwell, 1985: 424-43.

17. Wong CK, Lau J. Psychiatric morbidity in a Chinese primary school in Hong Kong. Aust NZ J Psychiatry 1992; 26: 459-66.