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Attention-deficit hyperactive disorder presenting with school truancy in an adolescent: a case report

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ABSTRACT

Attention-deficit hyperactive disorder (ADHD) is a psychiatric illness commonly diagnosed during the early years of childhood. In many adolescents with undiagnosed ADHD, presentation may not be entirely similar to that in younger children. These adolescents pose significant challenges to parents and teachers coping with their disability. Often adolescents with behavioural problems are brought to medical attention as a last resort. This case describes an adolescent who presented to a primary care clinic with school truancy. He was initially treated for depression with oppositional defiant disorder and sibling rivalry. Only follow-

ing a careful detailed history and further investigations was the diagnosis of ADHD made. He showed a positive improvement with the use of methylphenidate for his ADHD and escitalopram for his depression. The success of his management was further supported by the use of behavioural therapy and parenting interventions. There is a need to increase public awareness of ADHD, especially among parents and teachers so that early intervention can be instituted in these children.

Keywords: attention-deficit hyperactive disorder, primary care, school truancy

Introduction

School truancy is defined as a child who made an attempt to go to school but strayed elsewhere.¹ Unlike school refusal, children or adolescents with truancing problems do not have anxiety about

attending school. They make efforts to conceal their absence from their parents who believe that they are in school. As many as 30% of school children are absent from school at any one time.²

The risk of playing truant increases with age, is more prevalent in secondary school and affects both genders.³ Truanting children are not certain of their reasons for continuing schooling, and have little interest in school and low education goals.⁴ Factors that may contribute to truancy in children include poor socio-economic status, impoverished home, having an unstable parental relationship, inadequate parental supervision and being born to a teenage mother.^{4,5} Truanting children often mix with peers who have a negative influence on them.⁶ These children have no peer relationship difficulties and are at risk of behaviours such as delinquency, substance abuse and sexual activity.^{4,7}

The impacts of school truancy can be enormous, affecting the adolescents themselves as well as their families. As a result of their poor school attendance, truants commonly have low academic achievement and low self-esteem, becoming school dropouts, leading to poor employment and earning potential.^{2,3} They are also at risk of performing criminal behaviour in adulthood.⁸ Family dynamics can also be affected, parents tend to pay more attention to the adolescent which may inadvertently lead to marital discord in the parents, risking neglect and sibling rivalry in other children in the family.

School truancy is not a diagnostic entity, but should be seen as a red flag alerting physicians to possible psychopathology in the child.⁵ The differential diagnoses in children with school attendance problems include medical or neurological, bio-behavioural and behavioural or emotional disorders.⁷ School truancy has been found to be significantly associated with oppositional defiant disorder, conduct disorder and depression. The odds ratio for ADHD in children showing school truancy was low and not statistically significant.⁵ The following case illustrates the difficulty in diagnosing ADHD in an adolescent presenting with school truancy.

Case

A 14-year-old adolescent was brought by his parents because of school truancy of six months duration. His parents complained that he had lately become difficult to control. He would lie to them and spend most of his time in a cyber café.

The patient was the eldest of six siblings of a stable parental marital relationship and socio-economic status. His problem started when he was in second grade of secondary school. He sneaked out from home or school and spent his time in a cyber café near his school almost every day. His tenure as a school prefect had recently been terminated due to

the deterioration in his academic performance as well as his discipline problems. This had affected him morally, and further aggravated his school truancy. He had no good friends at home or at school. He claimed to have an invisible close buddy who no one but him could see. The 'visual buddy' would listen to his problems and helped him to escape from home. He was frequently involved in fights with his siblings, in particular his 13-year-old brother. He had difficulty in waiting for his turn to use the family computer. There had been an incident in which he tried to stab his brother with a knife following a fight over a computer game at home.

The patient felt that his parents were focusing more on his brother than on him, especially when his brother was selected to study in a good school in town at the beginning of the year. This was not easily accepted by the patient. He believed that he was a failure and he had lost control over his academic achievements. He had no interest in going to school and felt satisfied with computer games, especially when he won. He had a normal appetite and there was no change in his weight. There had been no recent change in his sleep patterns and he had no actual suicidal plan. He denied any involvement in gangsterism, alcohol, illicit drug use or sexual activity. He admitted smoking a cigarette once, but stopped as he felt suffocated. He had no previous criminal or disciplinary record.

The patient was born prematurely at 32 weeks, but otherwise had normal developmental milestones. His parents described him as active like other normal boys, but admitted that he was quite frequently lost at public places. He was slow in reading and writing, and only able to read at the age of 8 years. He wandered around in the classroom and preferred to read comics during his lessons with teachers. He was an average academic school performer and active in the school cadets, computer class and had been selected as a prefect the previous year. There was no family history of psychiatric illness.

Physical examination was unremarkable. He had no hearing, visual or speech difficulties. His body mass index was 16.8 kg/m² and appropriate for his age. Mental State Examination revealed a well-kempt adolescent with no perceptual disturbance. He was orientated to time, place and person. Rapport was difficult to develop initially and he was not interested in or co-operative with the tasks given. He had poor eye contact, low mood and thought-congruent affect. He was able to sit through the consultation but at times was noted to be tapping his feet. His speech was coherent, relevant and rational. He answered most questions prematurely and had poor insight into his problem.

The provisional diagnosis was major depressive disorder with oppositional defiant disorder. He

presented with irritable mood, loss of interest in school, deteriorating academic performance, psychomotor agitation and difficulty concentrating, particularly in school. These symptoms were present for more than two weeks.^{9,10} This diagnosis was further supported by the depressive features in the Mental State Examination and his high score (32) in the Children Depression Inventory (CDI).

Based on DSM-IV-TR criteria, the patient met the diagnostic criteria for oppositional defiant disorder.^{9,11} He had negative, hostile and defiant behaviours of six months' duration. He frequently lost his temper, actively defied adults' rules (truancy, cyber café and sneaking out from home), deliberately annoyed his sibling (taking over computer games), blaming others for his misbehaviour (parents were favouring the brother and teachers had demoralised him hence he played truant), was resentful and experienced sibling rivalry toward his brother. These negative behaviours had affected the patient's function and there was a deterioration in his academic studies.

An important differential diagnosis of ADHD was also considered in view of the symptoms of 'hyperactivity' (active boy with frequent loss in public places and 'fidgeting' during consultation), inattention in the classroom (wandering around and not focusing in class) and impulsivity (trying to harm his brother, difficulty with waiting for his turn and blurting out answers to questions). There were no significant clinical parameters to support a diagnosis of thyroid disorders, substance or illicit drug abuse.

The patient was treated with antidepressant (escitalopram) and psychological counselling. He was later referred to the child psychiatrist because of the diagnostic difficulties as well as shared care. Collateral history from school teachers and the counsellor showed that he was quiet and a loner in school. He showed less interest in the classroom and often did not complete his school work. His parents' Conners Rating Scale showed features of ADHD, especially inattentive type. This is further supported by the Child Behaviour Check List (CBCL) where he showed more externalising behaviour, predominantly ADHD. His internalising behaviour (depression) was not prominent as assessed by the CBCL because he was already on treatment for depression when the CBCL was conducted.

The above results further supported clinical observations that fulfilled the criteria of ADHD. His diagnosis was reviewed and a diagnosis of ADHD was made. He was successfully treated with T. methylphenidate and behavioural intervention. The intervention concentrated mainly on controlling his impulsivity, such as using a traffic light as a reminder to make him pause and rationalise his

actions. He was also started on anger management. His parents were also given psycho-education on the diagnosis and interventions. At the time of reporting, he was in his final year of secondary school and preparing for the Malaysian Certificate Examination. He had stopped visiting the cyber café and his parents were able to control his time on the computer. His school authorities were also made known of his diagnosis and they were co-operative enough to give him extra attention and necessary assistance. Both teachers and parents were happy with his progress.

Discussion

Diagnosing ADHD

ADHD is a neurodevelopmental disorder, and the frontal area of the brain has been implicated in its aetiology. As the child grows, the brain develops further, leading to changes in the ADHD symptoms across the various developmental changes. The reported prevalence of ADHD in children worldwide is around 3–8%.¹² Risk factors for having ADHD include male gender, genetic and developmental factors such as *in utero* cerebral abnormalities, cerebral infection or trauma and prematurity.^{12,13} Psychosocial problems such as poverty, criminal activity, single-parent families, conflicts and psychiatric morbidity may worsen ADHD symptoms in children.¹²

Based on DSM-IV-TR criteria, the child must show six of nine inattention symptoms or six of nine hyperactivity-impulsivity features for more than 6 months to be diagnosed as having ADHD.⁹ The onset of symptoms must occur before the age of 7 years and symptoms must be present in at least two or more settings. There are three subtypes of ADHD:

- combined type, in which there are at least six symptoms of inattention and six symptoms of hyperactivity-impulsivity, this is the most common subtypes in ADHD children
- predominantly inattentive type, in which there are at least six symptoms of inattention and
- predominantly hyperactive-impulsive type, in which there are at least six symptoms of hyperactivity-impulsivity.⁹

Age at presentation is an important point to consider. In pre-school-aged children, hyperactivity and inattentive symptoms are common. These children are observed to be hyperactive, always on the move, unable to sit in a classroom setting, unable to focus and frequently lost in public places. In addition to

usual ADHD symptoms, school-related problems such as poor academic performance, involvement in bullying and other disciplinary problems may be the presenting complaints in school-aged children.

In adolescents, symptoms of hyperactivity are diminished, but there are more symptoms of inattention and impulsivity. Adolescents tend to have poor peer relationships and school performance.⁷ They may also present with symptoms of comorbid conditions such as conduct disorder, oppositional defiant disorder, depression, anxiety and substance abuse, rather than the actual symptoms of ADHD. Likewise in adults, hyperactivity is more of an adaptive behaviour and they may easily be bored and avoid quiet and physically inactive situations.¹²

In this case, the comorbid depressive features masked symptoms of ADHD and obscured the diagnosis of ADHD in the patient. ADHD and depression are difficult to distinguish clinically.^{7,10,14} The presence of a 'visual buddy' in the patient may actually mislead the physician to the possibility of some form of psychosis or prodromal symptoms of schizophrenia. In children, hallucinations can be part of normal development, or non-psychotic psychopathology, psychosocial adversity or physical illness. Hallucinations must be evaluated in the context of other features of psychosis which were not evident in the patient. Children with non-psychotic hallucinations do not have delusions, disturbed language production, motor retardation, incongruent mood, bizarre behaviours and social withdrawal.¹⁵ This was what was observed in the patient. In a small study of 62 children, non-psychotic hallucination was related to depression, ADHD and disruptive behaviour.¹⁶ Importantly, the presence of hallucinations in a child may alert the physician to the possibility of substance abuse (such as amphetamines, cannabis or opiates) or medications (such as anticholinergics or steroids).¹⁵ The patient was negative for these.

In order for ADHD to be managed comprehensively at the primary care level, high levels of awareness and early detection are necessary. Diagnosis remains clinical, it is therefore important that a thorough history is obtained and a detailed examination is performed. Physicians need to be aware of the different manifestations of symptoms at different ages. Diagnosing ADHD in an adolescent is even more challenging because physicians rarely see presentation at this age. Treating physicians need to have a meticulous retrospective assessment of the ADHD symptoms during childhood, objective reports from teachers (kindergarten, primary and secondary schools), as well as current self-reported symptoms from parents and the adolescent.¹² Incomprehensive data and bias data may arise, especially when one relies on only one source of information.¹⁷ The physical examination focuses on looking for signs of

medical causes which may contribute to the abnormal behaviour, such as neurological or thyroid disorders and substance abuse. There should also be language, hearing, speech and intellectual assessments. In general, the examinations will be normal for ADHD children.

Adequate time should be allowed to make an accurate diagnosis. It is usually insufficient to make a diagnosis based on a single evaluation, re-evaluation may be required, especially in a complex case like the patient detailed here.¹⁸ Several validated instruments can be used to assist in getting parents' and teachers' feedback on children's psychopathology in different settings. These include the CBCL and Conners Parent and Teachers Rating Scale.¹² The CBCL measures the child's internalising and externalising behaviour and emotional problems from the perspective of the parents, teachers and the children themselves. It has been found to be a suitable tool for the identification of psychiatric comorbidity in ADHD adolescents.^{12,19} Looking at our patient, his CBCL and his parents' Conners rating scales further supported the externalising behaviour of ADHD, particularly inattentive type ADHD.

Once ADHD is diagnosed, physicians need to look for common comorbid conditions. Regardless of age, it is common to have comorbidities which affect more than two thirds of children with ADHD. Comorbid problems include oppositional defiant disorder, conduct disorder, anxiety disorder and mood disorder.¹² Following the consequences of his undiagnosed ADHD, our patient presented with comorbid depression, as well as oppositional defiant disorder. This had actually camouflaged his ADHD symptoms. Without a detailed history, his ADHD may not have been detected and managed.

Furthermore, current DSM-IV-TR criteria reflect the clinical features of ADHD in children and do not focus on adolescents. In this adolescent patient, there was no excessive running, but the hyperactivity symptoms were manifested as restlessness and excessive fidgeting. It was a challenge for the patient to sit and listen attentively in the classroom. As a result, he preferred computer games which were more interactive and able to capture his attention for longer. His symptoms impaired his social functioning and resulted in poor relationships with his peers and siblings.

Managing ADHD in a primary care clinic

Compared with a psychiatrist, a physician has the advantage of managing ADHD with minimal levels of stigma. Given the necessary support, ADHD can be well managed at the primary care level. Successful management includes a triad of educating (ado-

lescents, parents, family and school personnel) about the diagnosis, the use of medications and psycho-socio-behavioural intervention.^{12,20} Medication alone or a combination of medication and behavioural treatment have been found to be more effective than behavioural treatment alone.²¹

As for the medication, methylphenidate is the most common stimulant prescribed, especially at our centre. Other stimulants include dextroamphetamine and mixed amphetamine salts. Continuous assessment is required to ensure that the patient complies with the medication, receives an adequate dosage during the various developmental stages, as well as to monitor the occurrence of side effects such as mood changes, insomnia, reduced appetite and poor growth.²¹ In certain instances it may be necessary to have a consultation with child psychiatrists for difficult to control cases, where the use of long-acting stimulants such as extended release methylphenidate or non-stimulants such as tricyclic antidepressants may be considered.

There are many behavioural interventions that can be implemented in ADHD children, targeting the specific behaviour that needs to be changed. In our patient, the main focus was to control his impulsive behaviour and traffic light colours were used as a reminder for him to stop and think of his intended action. He needs to stop (red light), think and rationalise his action (yellow light) and will only act if it is rational and safe (green light). This behavioural intervention is a rather simple procedure and is easily remembered by the patient. Together with this, our patient was taught a progressive muscle relaxation and deep breathing exercise which was found to be effective in reducing his anger and calmed him. Parental counselling and training are not only about the diagnosis and medication given to the child, but also stress the importance of having clear expectations and regulations at home, reinforcing positive behaviours and building the child's competence and success.²⁰ Other interventions that need to be considered in ADHD children include school-based intervention and occupational therapy, depending on the individual case.²¹

A favourable prognosis for the adolescent with ADHD largely depends on early diagnosis and management, acceptance of the diagnosis in the adolescent, together with a positive family and school environment. Undiagnosed adolescents with ADHD may have serious behavioural problems (oppositional defiant disorder and conduct problems), substance abuse, damaged self-esteem, school attendance problems and later school failure.⁷ Ultimately, these adolescents become school dropouts and are viewed as a failure to thrive in adolescence.^{7,12} When these ADHD adolescents enter adulthood, as poorly managed group, they may have relationship problems,

job difficulties, frequent changes of job, be impatient, have low frustration tolerance levels, anti-social personality disorder and become substance abusers.¹² Although our patient was noted as having a learning disability in reading initially, this was no longer a problem, and he had the potential for success in his academic field, provided he continued to live and be nurtured in a positive environment.

Conclusion

Diagnosing ADHD at the primary care level is a challenge for physicians, especially when presented during the adolescent period, which is not the typical age for ADHD presentation. The presence of comorbid conditions such as oppositional defiant disorder and depression add more difficulties for the treating physician not only in diagnosis, but also in management. Increased awareness of the atypical presentation of ADHD, especially the mild and inattentive type, among adolescents, parents, teachers and the public in general will facilitate detection and improve prognosis.

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CONSENT

Written informed consent was obtained both from the parents and patient for writing up this case and open access publication of this case report.

CONFLICTS OF INTEREST

The authors declare that we have no conflict of interest in writing and publishing this article.

AUTHORS' CONTRIBUTION

All the authors were significantly involved in making the diagnosis, managing the patient and in making an intellectual contribution to writing this article. All the authors agreed on this final article.

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