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Comorbidity of Autistic Disorder in Children and Adolescents

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Although considerable research has been done on various aspects of autism, information about the prevalence of coincident psychiatric disorders that may complicate this syndrome, is negligible. In this paper, we present preliminary data on the presentation of other psychiatric disorders in children and adolescents with autism. Out of an outpatient sample of 68 autistic children and adolescents, 6 (9%) presented with an associated psychiatric disorder. Depression was the most common diagnosis. None of the patients was given a diagnosis of schizophrenia. Clinical and research implications of the findings are discussed.

Introduction

Autism is a behavioural syndrome characterized by the presence of severe social deficits, specific language impairments, and a characteristic course (Rutter & Schopler, 1988). Although substantial research has been done on its various aspects since it was first described by Kanner about half a century ago (Kanner, 1943), it is surprising that the study of associated psychiatric disorders in autism has received comparatively little attention (Volkmar & Cohen, 1986).

The scant information that exists on this topic is confined to adults. For example, Wing (1981) described the development of psychiatric disorder in her group of adults with Asperger's syndrome, a mild variant of autism. Clarke et al. (1989) described 5 patients ranging in age from 18 to 44 years with pervasive developmental disorders. Four of these were given a diagnosis of Pervasive Developmental Disorders Not Otherwise Specified (PDDNOS) since they did not meet the required number of criteria for DSM-III-R autistic disorder (APA, 1987). Only one patient with major depression met the criteria for autism.

As far as we are aware, no systematic study has looked at the occurrence of coincident psychiatric disorders in a large series of children and adolescents with autism. In this report, we present preliminary data on this topic.

Method

The sample consisted of consecutive patients referred to the Developmental Disorders clinic at the University of Michigan over an eighteen month period.

The following groups of patients were excluded: patients over the age of 18 years; those with a primary diagnosis of mental retardation; those with a primary diagnosis of language disorder; and those who had a diagnosis of PDDNOS. Diagnosis of PDDNOS was given if the patient met less than eight of the required 16 criteria for the diagnosis of autistic disorder as defined by the DSM-III-R. Patients who presented with mental retardation without any additional features of pervasive developmental disorders, were labelled as those suffering from primary mental retardation.

Diagnosis of autistic disorder was based on the criteria given in the DSM-III-R (APA, 1987); and was reached after a comprehensive evaluation which consisted of a psychiatric mental status examination by two child psychiatrists; interviews with parents and professionals; psychological testing; speech and language assessment; and occupational testing. In addition, scales such as the Autism Behavior Checklist (Krug et al., 1980) and the Vineland Adaptive Behavior Scale (Sparrow et al., 1984) were also used. In some cases, however, assessment of cognitive functioning was based on

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evaluations done by other authorities, such as school and social services, before the referral to our clinic.

The categorization of comorbidity was based on the disorders classifiable on Axis I of the DSM-III-R. This axis includes all clinical syndromes and V codes. The individual criteria for the syndromes were based on those given in the DSM-III-R. Diagnosis of mental retardation was made on the basis of a standardized IQ test. When this was not possible or available, clinical assessment was used to define mental retardation. Structured psychiatric interviews could not be done because the patients included in the study were often not able to cooperate with such interviews (Young et al., 1987).

Results

108 patients (90 males; 18 females) were referred over the index period. Their age range was 2 to 52 years (mean: 8 years). Out of these, 15 patients aged 18 years or more, were excluded. Also excluded were 4 patients with a primary diagnosis of mental retardation; 2 with a diagnosis of language disorder and 19 with a diagnosis of PDDNOS.

The final sample, therefore, consisted of 68 patients (55 males; 13 females) with autistic disorder. The age range of the autistic group was 2 to 17 years (mean: 8 years). 57 patients were mentally retarded. Out of these, 6 (9%) were given a diagnosis of an Axis I disorder. Three patients were diagnosed as suffering from a mood disorder; 1 from an obsessive-compulsive disorder; and one each from trichotillomania and tic-disorder. None was diagnosed as suffering from schizophrenia. This is shown in Table 1.

Table 1. Comorbidity of autistic disorder.

Age	Sex	Axis I Disorder	Other Axis II Disorder
16	M	MDD	Down's syndrome Mental Retardation
16	F	MDD	Mental Retardation
10	M	Depression NOS	Down's syndrome Mental Retardation
16	F	OCD	Mental Retardation
11	M	Tic Disorder	Nil
12	M	Trichotillomania	Mental Retardation

MDD: Major Depressive Disorder
OCD: Obsessive Compulsive Disorder

Discussion

This study documents the occurrence of superimposed psychiatric disorders in a group of children and adolescents suffering from autistic disorder. It suggests that persons with autism can not only develop additional psychiatric complications but can also be diagnosed as such using the existing system of classification. Out of a sample of 68 patients with autistic disorder, 6 (9%) were given a diagnosis of a coincident psychiatric disorder. Although the purpose of the study was not epidemiological in nature, the results indicate that a substantial number of patients may suffer from associated psychiatric disorders.

The most common diagnosis was that of mood disorder. In all, three patients were given this diagnosis. Two patients developed features of major depression as diagnosed by the DSM-III-R; one patient did not have any consistent pattern to his depressed mood and, therefore, met the criteria for depressive disorder not otherwise specified. All the three were also moderately mentally retarded. Various reports have documented the occurrence of clinical depression in mentally retarded persons, usually in adults (Sovner & Hurley, 1983). As most autistic persons are also mentally retarded, the same diagnostic difficulties arise in the assessment of psychopathology in this population as in persons with mental retardation. So far as the occurrence of depression in autism is concerned, the literature is limited to a few case studies (Clarke et al., 1989; Ghaziuddin & Tsai, 1991). Some recent reports have proposed links between mood disorders and autistic-like conditions such as Asperger's syndrome. For example, Gillberg (1985) described the case of a 14 year old boy with mild mental retardation and Asperger's syndrome who developed features of cycloid/manic-depressive psychosis. Also, DeLong and Dwyer reported that the prevalence of Asperger's syndrome and bipolar disorder was increased in the first degree relatives of high-functioning persons with autism (DeLong & Dwyer, 1988).

Another issue of note is that two of the patients who had mood disorder also suffered from Down's syndrome. Despite earlier reports, recent research suggests that persons with Down's syndrome may suffer from a wide variety of psychiatric disorders including depression (Lund, 1988). The rather high prevalence of Down's syndrome in our sample may reflect a referral bias. However, it is conceivable

that the prevalence of autism in persons with Down's syndrome, especially among those with behavioural problems, is perhaps more common than often believed.

Three out of the 108 patients referred to the clinic were diagnosed as suffering from obsessive-compulsive disorder (OCD). However, two of these, did not meet all the required number of criteria for autistic disorder and were, therefore, given a diagnosis of PDDNOS. One was an eleven year-old boy who presented with the complaint of repeatedly tying and untying his shoe laces. His symptoms had deteriorated for six months before the referral when he was spending twice as much time as the other children in his class-room tying his shoe laces. In addition, he used to worry constantly about whether or not his mother would pick him up from school. He realized that he spent too much time tying his shoe laces and 'worrying' about his mother, but felt unable to change his behavior or control his thoughts. The other patient, who was also diagnosed as suffering from PDDNOS, presented with the complaint of spending hours washing his hands to get rid of dirt. Also, he used to ruminate for long hours about the moral justification for using an excess of paper towels to wipe his hands, wondering if he was depriving others of their share. He recognized that his thoughts were "silly"and irrational, but could not stop them.

The third patient, a 16 year old girl with mental retardation and autistic disorder, presented with the complaint of repeatedly flushing the toilet, at least 15 times, after using it. Even in the middle of the night, she would "sneak out of bed" to do it "just one more time". Parents reported that her purpose was to keep the toilet clean. Attempts at stopping her resulted in temper-tantrums. She had always shown some ritualistic behaviors such as checking doors and arranging pencils in a line. However, her complaint of flushing the toilet was of a recent duration. It had progressively worsened over the past six months, to the extent that parents felt a psychiatric consultation was necessary. Also, it significantly interfered with her social and school performance. Based on these findings, she was given an additional diagnosis of obsessive-compulsive disorder. Another patient, a 12 year old boy, presented with persistent hair-pulling and was given the diagnosis of trichotillomania. Although this is classified as an impulse control disorder in the DSM-III-R, some authors have stressed its relationship to OCD (Swedo & Rapoport, 1990).

Diagnosis of superimposed obsessive-compulsive disorder in persons with autistic disorder can be difficult. As a large number of autistic persons present with ritualistic behaviours, it is debatable when these behaviours can be regarded as part of a disorder. Problems of communication can further interfere with the reporting of such symptoms as inner distress and the desire to perform the compulsions. In such persons, a history of obsessions or compulsions accompanied by subjective distress may be difficult to obtain and may only be inferred from observations. Sometimes caregivers may report a recent increase in ritualistic behaviour accompanied by a significant interference in performance at home and school. In addition, precipitation of outbursts of temper and irritability at attempts to interfere with the rituals, may also be present. Some authors have, therefore, suggested that the diagnosis of OCD may be made in suggestive cases even in the absence of subjective distress (McNally & Calamari, 1989; Vitiello et al., 1989). There is also some evidence that clomipramine, a drug widely used in the treatment of OCD, may be of benefit in the treatment of autistic rituals. Gordon et al. (1990) performed a double-blind 10-week crossover trial of clomipramine and desipramine on six autistic children. Clomipramine was found to be superior to desipramine across a variety of measures, including the NIMH Global OCD scale (Gordon et al., 1990). However, details about the individual cases were not described.

As autism can present along a spectrum of abilities, autistic persons who are higher-functioning may themselves complain of symptoms consistent with a diagnosis of OCD. The PDDNOS patients described in this report were sufficiently verbal and of normal intelligence. They gave a clear history of compulsions and obsessions which caused personal distress at attempts to stop them, and which interfered significantly with their daily life. Both were successfully treated with clomipramine, the details of which are not described in this paper. To our knowledge, only one report has described the presentation and treatment of OCD in a 30-year-old autistic man with normal intelligence (McDougle et al., 1990). The symptoms consisted of collecting sticks, repeatedly washing hands due to fears of contamination, taking two to three hours to shower, insisting on his finger-nails being manicured in a particular manner, etc. These decreased significantly after eight weeks of treatment with fluvoxamine. Thus, OCD may be diagnosed in

persons with autistic disorder, especially in those with relatively normal cognitive and verbal skills.

None of the patients was given an additional diagnosis of schizophrenia. This is in agreement with other studies which have found low rates of prevalence of schizophrenia in autistic persons (Volkmar & Cohen, 1991). Although autism and schizophrenia are now widely regarded as two distinct conditions, the association of these two disorders continues to be a matter of debate. Some autistic children may become schizophrenic as they grow up (Petty et al., 1984). Our sample contained a few patients with idiosyncratic preoccupations who could have been mistakenly diagnosed as schizophrenic. One patient, for example, believed that the air in our state was not pure. Another patient was unduly concerned about the ozone layer. However, in none of the patients did we feel that a diagnosis of schizophrenia was justified.

Another disorder which was not found in higher numbers was Tourette's syndrome. There was only one patient who had tics. Two other patients who met all the criteria for Tourette's syndrome were excluded from the study. One was 22 years old and the other was referred outside the period under study. Some studies have reported a much higher prevalence of Tourette's syndrome in autism (Kerbeshian & Burd, 1986). Presence of Tourette's syndrome in persons with mental retardation has also been documented (Golden and Greenhill, 1981; Goldman, 1988). However, we could not confidently diagnose this syndrome in our sample when the presentation was complicated by severe mental retardation and other motor abnormalities. This was true of two young adults with severe mental retardation, both of whom had stereotype movements and made occasional grunting noises.

Conclusion

A wide range of superimposed psychiatric disorders can occur in persons with autistic disorder. Certain disorders, such as obsessive-compulsive disorder, are more difficult to diagnose than others. Presence of mental retardation further complicates the assessment and diagnosis of associated psychopathology. Further studies of the prevalence of psychiatric disorders in this population are important not only for treatment but also for identifying the various subtypes that form the behavioural syndrome of autism.

Résumé

Bien qu'une recherche considérable ait été enterprise concernant les différents aspects de l'autisme, l'information sur la prévalence des troubles psychiatriques coïncidant et pouvant compliquer ce syndrome reste négligeable. Dans ce travail, nous présentons des faits préliminaires concernant les autres troubles psychiatriques chez les enfants et les adolescents avec autisme. Parmi un échantillon de 68 enfants et adolescents autistes vus en consultation: 6 (9%) présentaient un trouble psychiatrique associé. La dépression était le diagnostic le plus commun. Aucun des patients n'a eu un diagnostic de schizophrénie. Les implications de ces faits pour la clinique et la recherche sont discutées.

Zusammenfassung

Obwohl zu verschiedenen Aspekten des Autismus viel geforscht wurde, gibt es kaum Informationen zur koinzidentiellen Prävalenz von psychiatrischen Störungen, die das Syndrom komplizieren können. In dieser Arbeit stellen wir vorläufige Daten über begleitende psychiatrische Störungen bei Kindern und Jugendlichen mit Autismus vor. Von 68 ambulant behandelten Kindern und Jugendlichen mit Autismus zeigten 9% eine assoziierte psychiatrische Störung. Depression war die häufigste Diagnose. Bei keinem der Patienten war die Diagnose Schizophrenie gestellt worden. Klinische und wissenschaftliche Implikationen dieser Befunde werden diskutiert.

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