

# Asperger's syndrome

Muwafak H. Al-Eithan, MSc, PhD.

---

### ABSTRACT

This study presents a 14-year-old Saudi child with poor school achievement, diagnosed by psychiatrists as mentally retarded with a significant social deficit. No neurological disorder was evident. She has high to very high intellectual abilities on testing her intelligence quotient. Her verbal learning ability was also very high. Her social skills and capacity were impaired. No evidence of poor language was detected. The patient is diagnosed as suffering from Asperger's syndrome, and not mentally retarded. She has the criteria for Asperger's syndrome according to Diagnostic and Statistical Manual, 4th edition, including the significant social deficit with normal intellectual functioning. The utility of such a diagnosis is briefly discussed.

**Keywords:** Asperger's syndrome, psychology, child, psychiatry.

Neurosciences 2000; Vol. 5 (4): 243-245

---

Asperger's syndrome (AS) is a pervasive developmental disorder (PDD) characterized by a severe social dysfunction and idiosyncratic interest in the presence of normal intellectual ability.<sup>1,3</sup> The disorder seems to be more common in boys than girls, and there is evidence to show that other relatives may show similar disorders.<sup>1</sup> The disorder has no known etiology.<sup>2</sup> Current research shows more evidence that the disorder is a distinctive one when compared with other PDD, such as high functioning autism (HFA). Klin et al.,<sup>4</sup> for instance, showed empirical distinction between AS and HFA on different neuropsychological tests, and it can therefore be viewed as a separate disorder.<sup>5</sup> There is growing evidence to indicate that the prevalence of the disorder is not very limited. Ehlers and Gillberg<sup>6</sup> showed that the prevalence in a total population is about 3.6 per 1,000 children (7-16 years old) using Gillberg and Gillberg's criteria with a ratio of 4:1 (male to female). The same study showed an increased prevalence, when they used possible AS cases, to 7.1 per 1,000 children. Other work showed the prevalence to be 10-26 per 10,000 children.<sup>3</sup> Both clinical data and research show some co-morbidity<sup>7</sup> where other psychological functioning may be

impaired. This co-morbidity may cloud the understanding and diagnoses of such cases in clinical practice. There is growing neuropsychological and anatomical data to support the notion that there is a specific social deficit (the core deficit) in AS with normal intelligence. Recent functional magnetic resonance imaging (fMRI) research has shown fronto-temporal activation in AS (but not amygdala-related to autism) which is hypothesized to be related to the 'social brain' theory.<sup>8</sup> It is not the scope of the present paper, however, to discuss the neuro-anatomical and neuropsychological aspects of AS and its relation to other PDD. The present paper presents a Saudi case with AS, which may be the first case documented in this country, to the best knowledge of the present author.

**Case Study.** A 14-year-old right handed Saudi girl, who lives with her family in Riyadh, was referred from the Psychiatry Department with a diagnosis of mental retardation. She failed her exams in the 5th grade, and repeated the year 3 times, and has left school now as a result. There is no significant medical problem, and she is on no medication. Both parents are alive and well. She has 9 brothers and sisters, one sister has poor school

---

From the Psychology Department, King Saud University, Riyadh, Kingdom of Saudi Arabia.

Published simultaneously with special permission from Saudi Medical Journal.

Address correspondence and reprint request to: Dr Muwafak H. Al-Eithan, Consultant & Assistant Prof. of Clinical Psychology, Psychology Department, King Saud University, PO Box 2458, Riyadh 11451, Kingdom of Saudi Arabia. Tel/Fax: +966 (1) 467 4772. E-mail: meithan@ksu.edu.sa

performance, but has normal comprehension ability. The patient has 3 nephews with mental retardation. Developmentally, she was the product of a normal pregnancy and delivery. She had normal milestones in her development, except that she was a bit delayed in her speech according to the family, but that soon recovered. She is quite fluent in her language now, no sign of other linguistic difficulties was evident. She has good relationships with her family. But socially she is not mature enough to converse with others in a normal way, and can be over familiar with others, which may cause some embarrassment to her family. She has no friends of her age, and has failed to develop lasting friendships with girls of her own age. There is no evidence of any traumatic or unpleasant experiences in her life. She enjoys cooking, and watching television. She is particularly good at drawing. She can look after herself very well. She is very fussy about what she eats, and very selective in her taste. She is particularly interested in pets, cats especially and she draws them frequently. Her drawing ability is excellent for her age, even without professional training in art. Her best subjects at school, are math and english language, and she is also good with computers.

**Clinical Data.** At interview the patient was well presented in appearance, and was pleasant and cooperative. She appeared slightly overweight. She maintained good eye contact, and she was relating to relatives very well. She showed reasonable verbal comprehension. Her expressive language was also normal. She was well oriented in place, but not in time. She behaved younger than 14. She makes facial and verbal expressions not expected from a girl of her age, though not rude, may be considered comical. She has, however, remained throughout the sessions very pleasant. She could read and write reasonably well. Her drawing was very good indeed, for her age, though she never had proper training. Throughout all clinical sessions, she was patient and showed no sign of significant boredom. She stayed in her chair very relaxed and maintained her attention on most tasks, and conversation. There was no signs at all of any hyperactivity or indeed attention problems.

**Results.** Raven's Progressive Matrices, she scored 44 (90th percentile) very high. Wechsler Intelligence Scale for Children (WISC) = Full Intelligence Quotient (IQ) = 104. [Verbal IQ = 92, Performance IQ = 117.] Vineland Social Maturity Scale = 101 (normal). Porteus Maze Test = scored (122) very high ability. Word Learning List (Arabic version) = 7,10,13,15,15/16 (very good). On other non-standardized tests, she performed well on object naming task, and on color naming test. She was slightly below her school-level on a reading task.

**Discussion.** The patient's performance on neuropsychological tests clearly showed a bright

young girl. Her performance on the Raven's Test, a non-verbal general ability task showed her to be as good as a Saudi sample at the average age of about 23.4 years with average years of education (15.3).<sup>9</sup> This performance shows very high ability for her age. This performance on its own rules out any mental retardation diagnosis. Her results from the WISC also revealed normal to high intellectual abilities (higher on the performance IQ), as well as performance on the Porteus test. The less verbally demanding the task, the better her performance. All of the above, also indicates no specific learning difficulties. Higher functioning on the performance task has been reported in different tests.<sup>10</sup> In addition, she showed on testing very good verbal learning ability, which should have been reflected in her school work, though this was not the case. Her skills in learning seem to be intact, however, as arguably she suffers from Asperger's syndrome, she had difficulties in flexible learning with rigidity in cognitive skills. However, all these results were contradicting her school performance. This may have been the reason for the psychiatric diagnosis of mental retardation, since she failed her 5th year 3 times. The more likely clinical explanation for this contradiction is the idea that this girl in fact suffers from Asperger's syndrome, considering her clinical presentation and tests results. As stated in the introduction, AS is characterized by difficulties in the social performance and abilities domain, with good or high intellectual abilities. Of interest, and in support of this explanation, is the fact that she was very high on intellectual tasks, but average on the Vineland Social Maturity Scale, which taps on social skills and capacity. This later test's performance, though within average range, is below her intellectual abilities, indicating a specific deficit in the social domain (a form of a neuropsychological dissociation between the intellectual and the social domain).

This clinical data and test results seem to resemble best the DSM-IV criteria<sup>1</sup> for Asperger's syndrome. Furthermore, it provides an explanation for the unfortunate difficulties this girl, and subsequently her family suffer from. These difficulties include the social as well as the academic performance. In the later area, the family emphasized that she could do very well at her exams providing that she has exactly the same questions she practiced on; if there was any slight variation this means that she will not be able to answer them. This pattern of inflexible adherence to specific routine or ritual has been indicated as one of the signs of the disorder<sup>1</sup> and consistent with her fussiness with food and seemingly excessive interest in pets. It is also clearly fitting with diagnostic criteria the fact that the disorder is clinically impairing her social functioning. Her behavior at interview was devoid of autistic features. She appeared to be free of abnormal personality characteristics or any behavioral or emotional disorders. She was a very happy young girl.

The aim of this paper is to raise the awareness of clinicians in the field to such cases where they may be misdiagnosed. This is quite possible because of the strange clinical presentation and perhaps the relative rarity of the condition. Bankier et al<sup>11</sup>, for instance, reported a case of Asperger's syndrome diagnosed in adulthood, after repeated admissions to psychiatric hospitals without the appropriate diagnosis ever being made, despite the presence of all the typical symptoms of the condition. It is hoped that the present paper, documenting the presence of such cases in the kingdom, will make clinicians more aware of such cases and therefore lead to proper diagnosis and, subsequently, management.

**Acknowledgment.** My thanks are to M. Nester, PhD, from King Faisal Specialist Hospital & Research Centre in Riyadh for his valuable comments and advice.

## References

1. American Psychiatric Association. Diagnostic and Statistical Manual (DSM-IV). Washington DC: APA; 1994. p. 76-77.
2. Kaplan HI, Sadock BJ, Grebb JA. Synopsis of Psychiatry, 7th ed. Maryland: Williams and Wilkins; 1994.
3. Spreen O, Risser AT, Edgell D. Developmental Neuropsychology. New York: Oxford University Press; 1995.
4. Klin A, Volkmar FR, Sparrow SS, Cicchetti DV, Rourke BP. Validity and neuropsychological characterization of Asperger's syndrome: convergence with nonverbal learning disabilities syndrome. *J Child Psychol Psychiatry* 1995; 36: 1127-1140.
5. Szatmari P. Asperger's syndrome: diagnosis, treatment, and outcome. *Psychiatry Clinics of North America* 1991; 14: 81-93.
6. Ehlers S, Gillberg C. The epidemiology of Asperger's syndrome: A total population study. *J Child Psychol Psychiatry* 1993; 34: 1327-1350.
7. Ghaziuddin M, Weidmer-Mikhail E, Ghaziuddin N. Comorbidity of Asperger's syndrome: a preliminary report. *J Intellect Disabil Res* 1998; 42 (pt 4): 279-283.
8. Baron Cohen S, Ring HA, Wheelwright S, Bullmore ET, Brammer MJ, Simmons A et al. Social Intelligence in the normal and autistic brain: an fMRI study. *Eur J Neurosci* 1999; 11: 1891-1898.
9. Al-Eithan M. Raven's Standard Matrices - an indicator of general ability in neuropsychological evaluation: Arabic data and clinical implications. *Neurosciences* 1999; 4: 120-123.
10. Jolliffe T, Baron Cohen S. Are people with autism and Asperger's syndrome faster than normal on the Embedded Figure Test? *J Child Psychol Psychiatry* 1997; 38: 527-534.
11. Bankier B, Lenz G, Gutierrez K, Bach M, Katsching H. A Case of Asperger's Syndrome first diagnosed in Adulthood. *Psychopathology* 1999; 32: 43-46.