Further evidence for a low body weight in male children and adolescents with Asperger’s disorder

Abstract The study explores the common clinical impression and previously reported finding by Hebebrand et al. (7) of reduced body weight in male children and adolescents with Asperger’s disorder (AD). Body weight and height of 36 consecutively admitted male patients with AD were retrospectively assessed for the calculation of body mass indices (BMI, kg/m²). The BMIs were transformed to percentile ranks and plotted into BMI-centiles representative for the German population. In addition, comorbid psychopathology was assessed to explore a possible relationship between associated psychopathology and body weight. The mean BMI-centile of all patients was 34.7 ± 31.8 and, thus, differed significantly from the mean centile of an age- and gender-matched psychiatric control group, which was 52.7 ± 28.3. Thirteen patients had a BMI below the 10th centile and five even below the third. Three of the latter presented with disturbed eating behaviour. Altogether four patients showed disturbed eating behaviour. They had a significantly lower mean BMI-centile than the rest of the group. The BMI-centiles of patients with other additional psychopathology did not differ significantly from the mean percentile of the whole cohort. The results clearly show an increased risk for underweight and disturbed eating behaviour in patients with Asperger’s disorder which should be evaluated in further studies.

Key words Underweight – Asperger’s disorder – anorexia nervosa

Introduction

Asperger (2) himself pointed out in his first description of autistic psychopathology during childhood that two of his original three cases had a below average body weight. Gillberg et al. (5) report that six of 51 formerly anorectic patients (12%) diagnosed as anorectic according to the DSM-III-R criteria also fulfilled the DSM-III-R criteria for AD. They suggest that a subgroup of patients with anorexia nervosa might have underlying autistic-like personality traits (4). This points to the possibility that there is an increased risk for underweight and disturbed eating behaviour in patients with autistic disorders. Hebebrand et al. (7) recently explored the presumed relationship between low body weight and autistic disorders. They showed that in male adolescent patients with AD diagnosed according to the DSM-IV criteria the mean age-corrected BMI-percentile was 31.6 ± 27.6 and, thus, significantly lower than the mean centile of a general population sample.

The aim of this study was to attempt to replicate the finding of below average body weight in an independent clinical study group of children and adolescents with AD, and to investigate a possible influence of associated psychopathology including disturbed eating behaviour, hyperactivity or obsessive-compulsive behaviour on body weight.
Sample and methods

All patients (n = 71) referred for in- or outpatient treatment to the Department for Child and Adolescent Psychiatry at the Central Institute of Mental Health in Mannheim from 1975 to 1995, and diagnosed either as AD or schizoid personality disorder (SPD) according to the ICD-9 (8) or -10 (9) criteria, were included in the study. We did not exclusively include patients with AD, but patients with SPD as well; both disorders have only recently been classified separately and a number of patients who were formerly diagnosed as having SPD would now be classified as AD.

All clinical charts were diagnostically re-assessed by two experienced child and adolescent psychiatrists (AM and ES). Patients had to fulfill the DSM-IV (1) criteria for AD and Gillberg and Gillberg’s diagnostic criteria for AD (3) for inclusion in the study group, and both raters had (independently) to agree on the diagnostic ratings. Personal data, comorbid psychopathology, drug treatment (n = 4), body weight and height for the calculation of BMI (calculated as body weight in kg divided by the square of the height, kg/m²) at initial referral were obtained from the clinical charts. Comorbid psychopathological features were not assessed with operationalized criteria, instead they refer to remarks in the clinical charts. Female patients were excluded from statistical evaluations due to the small case number of only six female patients with AD. This procedure led to the inclusion of a total of 36 male patients with AD.

These 36 patients were matched on a one-to-one basis with psychiatric control patients, for age (±4 weeks) and gender. The controls were randomly selected from all patients who were admitted to our department between 1975 and 1995. Patients with disorders or treatment protocols which might have an influence on their body weight were excluded as controls. This led to the exclusion of all patients with eating disorders and of all drug-treated patients. The control patients met the diagnostic criteria according to DSM-IV (1) for conduct disorder (n = 10), attention deficit hyperactivity disorder (n = 10) or disturbances of emotions specific to childhood and adolescence (n = 8). All other diagnoses only applied to one or to a maximum of three patients.

The BMI of the patients with AD and of the controls were transformed to percentile ranks and plotted into age-centiles representative for the German population (6). The resulting mean centiles of patients with AD and controls were compared using one sample Wilcoxon test. S.A.S. 6.09 was used for all statistical procedures.

Results

The mean age of the 36 patients was 12.3 ± 3.5 years (range 7.0–18.8). Mean body height and weight was 1.55 ± 0.2 m and 42.9 ± 16.4 kg, respectively. The mean BMI of the patients was 17.2 ± 3.4 kg/m² (range 11.1 – 24.2).

The mean age of the control group was also 12.3 ± 3.5 years (range 7.0–18.8). Mean body height was 1.50 ± 0.2 m, mean body weight was 45.5 ± 18.8 kg and mean BMI was 19.3 ± 3.9 kg/m² (range 13.1–31.0). Absolute BMIs between the two groups differed significantly (p = 0.02).

The mean BMI-percentile of the patients with AD was 34.7 ± 31.8 and differed significantly (p = 0.01)