

Identical Saudi Twins Concordant for Obsessive-Compulsive Disorder

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تم وصف توأمي بصفة سعوديين ذكرين لتوافقهما للاضطراب الوسواسي القسري. كان التوأم المسب قد عانى من الصرع الكبير منذ كان يبلغ الخامسة من العمر وتظاهر الاضطراب الوسواسي القسري عند التوأم المسب في سن العاشرة وبعد ثلاث سنوات في التوأم الثاني. كانت الاعراض الوسواسية متماثلة تقريبا عند التوأمين كما ابديا ذكاءا تحت المعدل. مع المقترح ان عوامل وراثية، عضوية وبيئية قد تتداخل سببيا في توافق التوأمين للاضطراب الوسواسي القسري.

Summary: A pair of monozygotic male Saudi twins concordant for obsessive-compulsive disorder (OCD) is described. The index-twin had suffered from grand mal epilepsy from the age of 5 years; OCD manifested in him at the age of 10, and 3 years later in his co-twin. Their obsessive symptoms were similar and both demonstrated below average intelligence. It is suggested that genetic, organic and environmental factors were probably implicated in the twins' concordance for OCD.

Résumé: Deux jumeaux homozygotes présentant des troubles compatibles avec une psychonévrose obsessionnelle sont présentés.

Le propositus présentait une épilepsie tonico-clonique depuis l'âge de 5 ans, sa psychonévrose obsessionnelle s'étant manifestée à l'âge de 10 ans, 3 ans après son frère jumeau. Leurs symptômes obsessionnels étaient très semblables, et tous les deux avaient une intelligence inférieure à la normale. Il est suggéré que l'étiologie de cette double psychonévrose obsessionnelle observée chez des jumeaux soit probablement d'ordre génétique, organique et environnemental.

Introduction

Obsessive-compulsive disorder (OCD) is a rare psychiatric condition with an incidence of 0.25% to 2.9% among psychiatric out-patients and 0.9% to 3.1% among psychiatric in-patients.¹ Obsessional neurotics are often of an above average or high intelligence and few are dull.

Reports of obsessive twins up to 1978 have documented 30 concordant and 13 discordant monozygotic (MZ) pairs, and no concordant but 14 discordant dizygotic (DZ) pairs.² Two MZ concordant pairs³ and a discordant MZ pair⁴ have also been recorded.

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In the Islamic religion reciting the prescribed prayers five times a day is of paramount importance. For prayers to be proper and acceptable the body and clothes need to be clean and devoid of any remnants of urine or stool and prayer should be preceded by washing rituals of the face, hair and extremities.

The following is an account of a pair of Muslim Saudi MZ male twins concordant for OCD.

Case Report

The twins were born normally in 1960. Twin A, the first born, attended the psychiatric out-patient clinic of King Fahd Hospital in 1982 at the age of 22 years with complaints of grand mal epilepsy experienced since he was 5 years old.

Twin A was found to be physically healthy and a CT brain scan was normal but his EEG revealed non specific abnormalities. His fits were controlled completely with carbamazepine. Two years later during follow up, he admitted having experienced symptoms of OCD from the age of 10 years old. His illness included obsessional doubts about body and hand cleanliness after urination or defaecation, the washing before prayers and about the prayers themselves and about closing doors. These doubts led to compulsive repetition of body and hand washing in the bathroom, of washing before prayers and the prayers themselves and of door checking respectively. His once- or twice-daily visits to each lasted from 30 to 60 minutes. That exasperated other members of his family and after marriage, his wife was also annoyed as he was kept late from his work on many occasions because of his behaviour. However, their marital relationship was not seriously strained. He repeated his prayers twice daily taking 90 minutes for an activity that normally requires about 30 minutes.

- The twins were living in the same room before their marriage. Twin A checked on the doors of his room and the main gate four times daily, each time twice; that behaviour required 5 minutes daily. He regarded his thoughts and acts as silly, found them distressing and vainly tried to resist them.

Twin B was seen in October 1985. Physically he was normal. He knew of his co-twin's illness since its onset. Though he used to ridicule twin A and tried to dissuade him from his rituals, he himself became sick with similar symptoms at the age of 13 years. His illness involved obsessive fears of disasters befalling Twin A whenever they were apart. These obsessions were rather brief as they lived most of their lives together. Also he compulsively rubbed his penis twice or thrice following urination. Moreover he manifested doubts and compulsive rituals similar to those of Twin A. He spent 15 to 30 minutes in his once-daily visit to the bathroom while the time taken in praying and checking rituals was similar to that of his co-twin. The twins' illness responded favourably within a few months to clomipramine 75 mg orally per day.

The father, the mother, six full-sibs and 12 half-sibs from three marriages were all normal. A paternal aunt had suffered from compulsive body washing for 40 years whenever she went to the lavatory. She visited the twins once or twice weekly for short periods, but had not lived continually in the household, or observed the twins' rituals. Actually the twins came to know about her illness from their mother only after the illness of Twin A was revealed. There was no family history of epilepsy. The early development of the twins was unremarkable. Twin A lived intermittently with a nearby grandmother until he was aged 6 years. After that Twins A and B lived together until they married. Both attended the same school at age 7 years. They failed examinations repeatedly; Twin A required 11 years and Twin B 12 years to complete their 6th grade. Twin A married at the age of 22 years and 10 months; later he moved to a nearby house with his wife. There he was visited daily by Twin B a custom that had annoyed the wife of Twin A. Following his marriage at 25 years Twin B's visits to his co-twin became less frequent as his wife also became annoyed by his visits to Twin A. On the whole the marital relationships of both twins were satisfactory and devoid of serious problems.

The twins demonstrated below-average intelligence on clinical assessment. They showed similar personality traits, as each described himself as shy, anxious, serious and perfectionist.

Monozygosity is suggested by the striking similarity of their faces, both had brown irises and were right-handed and preferred to use their right feet. Blood grouping was identical for the groups tested (ABO, RH, Duffy and MNS). Also HLA-typing was identical for HLA-A2, HLA-A2a, HLA-B35, HLA-B45, HLA-CW4 and HLA-CW6.

Discussion

The aetiology of OCD is still controversial. A number of causes including genetic, psychoanalytic, behavioural and organic have been proposed.^{5,6}

Several studies argue for a significant genetic contribution to the aetiology of OCD. Analysis of responses of 404 normal twin pairs to the Leyton Obsessional Inventory estimated the heritability of obsessional traits and obsessive symptoms as 44% and 47% respectively.⁷ From 2% to 10% of parents and siblings of obsessive-compulsive probands suffer from OCD, a percentage higher than expected in the general population.² Furthermore, in 15 MZ twin pairs and 15 DZ twin pairs with OCD, the concordance rates for the disorder were 87% in the MZ pairs compared with 47% in the DZ pairs.⁸

To account for concordance for OCD in our twins, three alternative hypotheses may be put forward.

First, both twins are genetically predisposed to OCD. A view supported by Slater's findings of greater qualitative similarities in the neurotic illness within MZ twins rather than within DZ twins.⁹

Second, the twins may have sustained a subtle prenatal cerebral insult that lowered their intellect, predisposed one to epilepsy and was linked to OCD in both. This is consonant with reports of an occasional association of OCD with various organic brain disorders including epilepsy.^{10,11}

Third, only Twin A was predisposed to OCD on account of either genetic or organic factors and Twin B acquired the illness by identification with his co-twin; however, Parker¹² threw doubt on identification as a possible cause for the high concordance rate of psychiatric illness in MZ twins when he described two pairs of MZ twins discordant for OCD albeit the marked identification manifested between the twins in each pair.

It is suggested that genetic and possibly environmental factors were responsible for the concordance of our twins for OCD.

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