

DEPRESSED MAN WITH DOWN SYNDROME SUCCESSFULLY TREATED WITH PAROXETINE

John C. Iverson and Jean K. Oelschlager

Introduction

The prevalence of mental illness in persons with mental retardation has been well documented (Jacobson, 1982; Parsons *et al.*, 1984; Iverson and Fox, 1989). Yet it is difficult to find studies documenting the diagnosis and treatment of depression in persons with Down syndrome.

Sovner and Des Noyers-Hurley (1983) concluded that factors such as impaired intelligence and social functioning do not preclude the development of affective disorders. Collacott *et al.* (1992) found that persons with Down syndrome are three times more likely to be depressed than persons with other forms of learning disabilities.

Outpatient treatment of this population has received little attention in the literature. "The mentally retarded suffer the full range of affective disorders and should be considered candidates for the full range of treatments including psychotherapy and pharmacotherapy with

antidepressants . . ." (Sovner and Des Noyers-Hurley, 1983). More recently Storm (1990) suggested that persons with Down syndrome and depression "may show a favourable response to pharmacotherapy".

While consideration of using antidepressant medication in persons with Down syndrome and depression has been reported for over 12 years, little has been cited on this topic. The use of antidepressant medication, particularly the new Selective Serotonin Reuptake Inhibitors (SSRI's), is widely accepted within the general population. However, only Howland (1992) has reported on the use of SSRI's for persons with mental retardation and depression. He used fluoxetine (Prozac) in his research treatment of 6 persons. The results suggested that fluoxetine was safe and effective in treating these individuals.

Here we discuss the case of a man with Down syndrome who was successfully treated for depressive symptoms with paroxetine (Paxil), an SSRI.

John C. Iverson, Ph.D.

Senior Psychologist, Waukesha County Department of Health and Human Services,
Developmental Disabilities Unit, 500 Riverview Avenue, Waukesha, WI, USA 53188
Tel: 1-414-548-7212 Fax: 414-548-7643

Jean K. Oelschlager, M.D.

Staff Psychiatrist, Waukesha County Department of Health and Human Services,
Mental Health Center, 1501 Airport Road, Waukesha, WI, USA 53188
Tel: 1-414-548-7950

Awareness of concomitant health issues associated with Down syndrome and the need for the collateral information from persons familiar with the patient was emphasised in diagnosis and treatment.

Method

DS, a 32 year old male with Down syndrome and moderate mental retardation, was seen at a county mental health clinic in September, 1993. Complaints by the staff at his group home and by his case manager included: irritability, aggressiveness and tearfulness. DS had been seen and treated at the county mental health clinic intermittently for several years. Past problems had included teasing peers, hyperactivity, yelling, hitting, kicking, property destruction and inappropriate touching of female peers. He had been tried on combinations of oxazepam, lithium, carbamazepine and thiothixene. Behavioural interventions also were employed. These interventions included self-monitoring, star charts, positive reinforcement and an increase in alternative activities such as bike riding, shopping and going to the YMCA (Young Mens' Christian Association). These interventions had been helpful at times although behaviour problems, particularly aggressive behaviour towards staff and peers, tended to recur. The patient's medical history was significant for hypothyroidism and the placement of a cardiac pacemaker in April 1993.

Lipkin (1985) states "depressions related to endocrinopathies, such as hypothyroidism may be much more extreme and dramatic; these are the most

often missed serious medical causes of depression". Mani (1988) suggests a prevalence rate of approximately 20% for hypothyroidism in a hospitalised Down syndrome population. DS was treated with synthroid.

When DS visited the clinic in September he was on lithium, carbamazepine, thiothixene and levothyroxine. His lithium level was 0.6 mEq/l (therapeutic range 0.5-1.5 mEq/l) and carbamazepine was 8.0 ug/ml (therapeutic range 4.0-12.0 ug/ml). Initially his dose of lithium was increased followed by small increases in his dose of thiothixene, up to 2 mg three times daily. By late November 1993 improvement in his behaviour was reported.

DS saw his primary care physician in late December 1993 with many somatic complaints, including nausea, vomiting, loss of appetite, sedation and lethargy. Laboratory studies revealed normal chemistry panel, thyroid studies, and complete blood count. The patient's lithium level was 1.3 mEq/l and carbamazepine was 8.3 ug/ml. The patient's dose of lithium was lowered by the primary care physician, who believed the patient's condition was related to an elevated lithium level. Lithium toxicity typically causes symptoms such as slurred speech, drowsiness, muscle weakness, tremor, muscle twitching, dysarthria, anorexia, vomiting and diarrhoea. About a week later on a lower dose of lithium, DS came to the emergency room with vomiting, abdominal pain and possible dehydration. His carbamazepine level had been stable for over a year. Other laboratory studies were unremarkable. The above informa-

TABLE I
DSM III-R Symptoms of Major Depressive Episode
for Patient DS

Symptom	Initial Date of Reporting
Depressed Mood	9/93
Diminished Interest in Activities	12/93
Eating Disturbance	2/94
Sleep Disturbance	8/93
Fatigue/Loss of Energy	12/93
Diminished Ability to Concentrate	11/93

tion was not communicated to the treating psychiatrist until February 1994.

By February 1994 the patient's condition had deteriorated further. DS continued to have somatic complaints but had also developed a sleep disturbance, appetite disturbance, incontinence of bladder and bowel, and had become progressively more withdrawn. All medications except levothyroxine were stopped by the psychiatrist and the medical records including laboratories, electrocardiogram and gastrointestinal studies were sent for and reviewed. The patient was seen again in the mental health clinic in early March after a brief period of medication washout. At that point, DS appeared paler, thinner, withdrawn, tearful and complained of feeling "sad". He continued to have the somatic complaints mentioned above along with sleep disturbance, appetite disturbance and incontinence. There were no complaints of hallucinations.

DSM III-R criteria [American Psychiatric Association (1987)] for Depressive Episode were reviewed. DS exhibited

the symptoms in TABLE I. The dates of the symptom initial report are listed.

In March 1994, DS was diagnosed as having a Major Depression. Lithium and carbamazepine were not restarted because no clear cut evidence of mania could be elicited from the chart or the staff. Due to concerns of potential problematic side effects of tricyclic antidepressants, such as sedation, dry mouth, constipation, dizziness and blurred vision, he was started on paroxetine 20mg daily.

Results

Approximately three weeks after initiation of the paroxetine, DS was observed to be smiling more and to be interested in activities. After 8 weeks DS showed significant improvement on the paroxetine. His sleep and appetite had improved. His somatic complaints disappeared and he interacted with those around him. He tolerated the medication well. DS continued to display some

behaviour problems, such as teasing peers and entering a neighbour's home uninvited. Behavioural interventions were reinstated to deal with these continued troublesome behaviours.

Discussion

Case studies report a specific methodology in the diagnosis and treatment of a specific individual. Whilst practitioners cannot generalise from reports of this nature, they can utilise the information in the development of diagnostic and treatment hypotheses. This case illustrates several points which made the treatment of DS challenging.

One could not simply rely on criteria outlined in DSM III-R and symptoms reported by DS. He possessed limited ability to describe affective states and changes in day-to-day functioning. It was essential that collateral information be obtained from those who knew DS well. Sources of this information included the case manager, group home personnel and work shop staff. This collaborative effort among the various systems that impinged on DS's life needed to be an educational one. The problems DS displayed consisted of troublesome behaviours such as hitting, being obstinate and wearing dirty clothes. The caregivers needed to be instructed on the importance of monitoring other critical symptomology such as sleep and eating patterns, interest in activities, lethargy, crying etc.

Sovner and Lowry (1990) describe behavioural equivalents in the mentally retarded for the DSM III-R diagnostic criteria for mood disorders. For

example, depressed mood may be observed as "apathetic facial expression with lack of emotional reactivity". Decreased concentration may appear as a change in workshop performance. Psychomotor agitation may manifest itself as self-injurious behaviour or aggression.

The diagnostic process was also hampered by the fact that DS was receiving several psychotropic medications. The behavioural changes may have related to medication side effects, interaction effects, or symptoms of emotional disturbance. In this case, a drug holiday or washout period did not prove helpful.

To accurately diagnose, medical conditions concomitant with Down syndrome needed to be ruled out. These include hypothyroidism, cardiac problems and Alzheimer's-like dementia. Thus, the importance of communication between non-psychiatric and psychiatric physicians treating patients with mental retardation needed to be emphasised.

The newer antidepressants, such as the SSRIs (paroxetine, fluoxetine, sertraline and fluvoxamine) have lower affinity for histaminergic and cholinergic receptors and so are associated with less sedation, weight-gain, hypotension, dry mouth, constipation and cardiovascular effects than the tricyclic antidepressants (Nemeroff, 1993). The SSRIs offered an antidepressant alternative that was more tolerable to DS, especially considering other medical problems. The most common side effects of paroxetine is nausea (Nemeroff, 1993). Others include headache, somnolence, dry mouth, insomnia, sweating, constipation, dizziness, tremor or ejaculatory disturbance. The once-a-day dosing and rare need for titration of

dose in these agents also made them easier for caregivers to administer.

Summary

The case of DS illustrates the multiplicity of issues in the diagnosis and treatment of depressive symptomology in a person with Down syndrome. Factors such as physical disorders, medication interactions, side effects and environmental changes were reviewed.

In this case a multidisciplinary approach was successfully utilised in monitoring symptoms and observing behavioural and affective changes that followed the initiation of paroxetine. Improvement was observed approximately three weeks following the commencement of treatment.

References

- American Psychiatric Association (1987). *Diagnostic and Statistical Manual of Mental Disorders* (3rd edn., revised) (DSM-III-R). Washington, DC: APA.
- Collacott, R. A., Cooper, S. A. and McGrother, C. (1992). Differential rates of psychiatric disorders in adults with Down's syndrome compared to other mentally handicapped adults. *British Journal of Psychiatry*, 161, 671-674.
- Howland, R. (1992). Fluoxetine treatment of depression in mentally retarded adults. *Journal of Nervous and Mental Disease*, 180, 202-205.
- Iverson, J. C. and Fox, R. A. (1989). Prevalence of psychopathology among mentally retarded adults. *Research in Developmental Disabilities*, 10, 77-83.
- Jacobson, J. W. (1982). Problem behavior and psychiatric impairment with a developmentally disabled population: 1. behavior frequency. *Applied Research in Mental Retardation*, 3, 121-129.
- Lipkin, M. (1985) Psychiatry and medicine. In: Kaplan, H. and Sadock, B. (Eds.). *Comprehensive Textbook of Psychiatry/IV*, 1263-1277. Baltimore: Williams & Wilkins.
- Mani, C. (1988). Hypothyroidism in Down's syndrome. *British Journal of Psychiatry*, 153, 102-104.
- Nemeroff, C. (1993). Paroxetine: an overview of the efficacy and safety of a new selective serotonin reuptake inhibitor in the treatment of depression. *Journal of Clinical Psychopharmacology*, 13 (Suppl 2), 105-107.
- Parsons, J. A., May, J. G. and Menolascino, F. J. (1984). The nature and incidence of mental illness in mentally retarded individuals. In: Menolascino, F. J. (Eds). *Handbook of Mental Illness in the Mentally Retarded*, 3-44. New York: Plenum Press.
- Sovner, R. and Des Noyers-Hurley, A. P. (1983). Do the mentally retarded suffer from affective disorders? *Archives of General Psychiatry*, 40, 61-67.
- Sovner, R. and Lowry, M. A. (1990). A behavioral methodology for diagnosing affective disorders in individuals with mental retardation. *The Habilitative Mental Health Newsletter*, 9, 55-61.
- Storm, W. (1990). Differential diagnosis and treatment of depressive features in Down's syndrome. *Research in Developmental Disabilities*, 11, 131-137.