

SERTRALINE IN BULIMIA NERVOSA TREATMENT: A REPORT OF SEVEN CASES

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Abstract:

Control trials show that fluoxetine is effective in Eating Disorders, particularly in bulimia nervosa. Despite the relative paucity of evidence other selective serotonin reuptake inhibitors (SSRIs) than fluoxetine are commonly used to treat bulimia nervosa in clinical practice. Sertraline is one of the SSRIs being used in Eating Disorders with bingeing and purging behaviours. Available evidence show promising data about the effect of sertraline on eating disorder's psychopathology, but there seem to be contrasting data about sertraline's effect on body weight.

We report seven cases of women with Bulimia Nervosa who reduced eating disorder core behaviours and maintained or lost weight in response to sertraline.

Keywords: bulimia nervosa, eating disorders, pharmacological treatment, fluoxetine, sertraline, body weight

INTRODUCTION:

Controlled trials demonstrated the efficacy of antidepressant medications with serotonergic function in patients with Eating Disorders, particularly in bulimia nervosa (BN). While there is good evidence about efficacy and tolerability of fluoxetine treatment in BN (Fluoxetine bulimia nervosa collaborative study group 1992; Goldstein DJ et al 1995, Arnold et al 2002, Couturier et al 2007), less data are available about the efficacy of other selective serotonin reuptake inhibitors (SSRIs). Despite the relative paucity of documentation other SSRIs than fluoxetine are commonly used to treat BN in clinical practice (Hudson JI, Pope HG Jr, Carter WP 1999, Carter et al 2003).

Among them sertraline is a selective and powerful serotonin reuptake inhibitor being used in Eating Disorders with bingeing and purging behaviours.

Available evidence show promising data about the effect of sertraline on eating disorder's psychopathology, but there seem to be contrasting data about sertraline's effect on body weight.

There is a case reports of 5 cases of sertraline use in Binge-Purging Type Anorexia (AN BP) (G. Frank, W. H. Kaye, M. D. Marcus 2001) and there's an open controlled study on eleven cases of Restrictive Type Anorexia (AN R) (Santonastaso P, Friederici S, Favaro A. 2001) where the authors suggest that sertraline may have particular effectiveness in terms of weight restoration.

On the other hand there are a few studies on the efficacy of Sertraline in eating disorder symptoms associated with weight loss in BN and in Binge Eating Disorder (BED) (Sloan et al 2004; Milano et al 2004; Appolinario & McElroy, 2004; Carter et al, 2003; Leombruni et al 2006).

Given the increasing evidence of Sertraline's efficacy in Eating Disorder it is still unclear its effect on body weight: in some studies sertraline treatment seems to result in weight gain, while in others the same drug seems to induce weight loss. In order to give further evidence on this issue the following case reports sertraline treatment of seven normal weight outpatients with BN.

Method:

Seven patients out of those admitted in the Eating Disorders Outpatients Program at the psychiatric unit of Versilia Hospital of Lido di Camaiore (Italy) affected with BN were selected, for this report, on the basis of drug treatment with sertraline.

All subjects received a BN diagnosis according to DSM criteria, confirmed by SCID-I, and were treated under open-label conditions with an average dose of 89,3 mg/die of sertraline over a 12 weeks period.

Patients were assessed with Clinical Global Impression (CGI), and have been monitored weekly as for weight changes, binge eating episodes frequency, vomiting frequency and any other measure to prevent weight gain. Outcome measures were CGI score, weekly average number of binges, weekly average number of self induced vomiting episodes, average weight in the beginning and average weight at the end of the observation.

Subjects	Diagnosis	Sex	Average dose (mg/daily)	Observation
7	Bulimia Nervosa	Female	89,3 (25-200mg/day)	12 weeks

Instruments

Structured clinical interview for DSM Axis-I Disorders (**SCID I**) (First, Spitzer, Gibbon, Williams, 1994) it is an instrument of eteroevaluation composed by a first part collecting clinical history and demographic data, and a second part where the presence or absence of Axis-I psychiatric disorders is assessed according to DSM diagnostic criteria. Each disorder is registered as current or lifetime.

Clinical Global Impressions (CGI)

It has been developed for a study on schizophrenia (PRB Collaborative Schizophrenia Studies) by the Psychopharmacology Research Branch (PRB) of NIMH – USA in order to assess risk-benefit ratio in psychiatric patients. It does assess clinical course of a patient at baseline, during and post treatment on a 7 point scale plus 1 (= impossible to assess)

CASE REPORTS**Patient 1**

T. N. is a 20-years-old young women, single, unemployed, who reaches psychiatric first observation with a **BMI of 20,83 (h 1,58 m, 52 kg)**. She has been preoccupied with weight and shape since the age of 15. From the same age she reports obsessive-compulsive symptoms. The patient has a clinical history of anxiety symptoms (inner tension, inability to relax, difficulty to concentrate) and depressive symptoms (social withdrawal, anhedonia, apathy, and occasionally irritable mood) of about a year. During the same period she reports daily binges and self induced vomiting. Before psychiatric evaluation T.N. was occasionally treated with diazepam 1mg at need on her General Practitioner's suggestion (**CGI = 5**).

She was started on psycho-educational therapy and sertraline starting from 25 mg per day up to a dose of 100mg per day in 16 days.

Over the next 12 weeks her mood improved and she reported a reduction of obsessive symptoms; her eating attitude changed. She started to face with regular meals three times a day, tried to follow a weight control program with a slight decrease in her body weight (50 Kg). She also reported a reduction of bingeing and purging behaviour (self induced vomiting) to an average of once in four days in the last 3 weeks. After 12 weeks of treatment her weight changed from 52 to 48 Kg (**BMI = 19,23**). She still continued with bingeing and purging about once a week but reported

no anxiety or depressive symptoms she was also able to cope with having meals in public and with weight and shape preoccupations (**CGI = 4 ; BMI = 19,2**).

Patient 2

L. A. is a 23-years-old young woman, single, student, reaching first psychiatric observation with a **BMI of 24,4 (h 1, 70 m 70,5 Kg)**. The patient has a familiar loading for anxiety disorders and she reports “to have always had” obsessive traits such as difficulty in changing her programs, preoccupation with details, perfectionism and stubbornness causing difficulties in interpersonal relationships.

Her eating disorder history begins at the age of 13 when she started with quantitative reduction and qualitative restriction of caloric intake losing 15 kg of weight. Since the age of 15 she started bingeing without purging (though she increased her physical activity after her binges) with a weight gain of about 8 kg. During the last year L.A. binged almost every day, several times per day, and in the last two months she started to self induce vomiting. At the same time she started feeling hopeless, miserable, cried with no reason and had difficulties in memory and concentration (**CGI = 5**). At the beginning of her treatment she was started on psycho-educational therapy and sertraline up to 75mg per day presenting slight dizziness.

Over the following 5 weeks she reported a reduction of bingeing and purging behaviour frequency to an average of once per day. Then sertraline dosage was increased up to 100 mg/day due to a relapse with increase in bingeing purging frequency up to 2 times per day. In about two weeks she experienced reduction in bingeing and purging about once in two days. In the following 3 months she had only occasional binges, no more than once per week, no purging and her weight reached 69 kg, she reported no anxiety or depressive symptoms even if she reported significant weight and shape concerns (**CGI = 3; BMI = 23,9**).

Patient 3

T.C. is a 20-years-old young woman, university student, sent to psychiatric outpatients section on her general practitioner's suggestion with a **BMI of 20,2**. She referred anemia since she started menstruating, refers occasional cannabis abuse and she received a diagnosis of obsessive compulsive personality not confirmed at psychiatric observation. At the age of 14 when she was 165 cm per 50 kilos she started reducing progressively her caloric intake losing 10 kg of weight in twelve months. At the age of 16 she was 46 Kg and she presented secondary amenorrhea for six months. During the following four years she started to binge once daily reaching 70 Kg of weight. Since then she kept on bingeing daily with no compensatory behaviour except compulsive physical exercise for about 120 minutes after her binges reaching a weight of 55 kg (**CGI = 5; BMI = 20,2**) (**h 1, 65 m 55 Kg**). At her admission to the program she was miserable, refused eye-contact, and referred not to be able to control her body weight and asked for help in order to reduce it. She was started on psycho-educational therapy and sertraline beginning with 25mg up to 75 mg per day in a week. After four weeks her mood improved, she binged once a week, even if T.C. kept on trying to reduce her body weight with physical exercise. At the end of the 12 weeks follow-up period she was 53,5kg, her mood was improved and she did refer bingeing once in a week, although she was still preoccupied with her weight (**CGI = 4; BMI = 19,7**).

Patient 4

S.C. is a 26-years-old young woman, single, unemployed, presented with a (**BMI of 19,6**) (**h 1, 69 m 56 Kg**). She had social anxiety and separation anxiety symptoms since her childhood with no Axis-I disorder. From adolescence she referred occasional binges and self induced vomiting which progressively increased until, at the age of 24, made her impossible to keep on working. During two years preceding observation patient's thoughts were dominated by preoccupation with shape and weight, and intense fear of gaining weight. S.C. was unable to keep a job or to maintain significant interpersonal relationships. At her admission to psychiatric program she binged and

purged about two times per week and practiced compulsory physical activity (**CGI = 4**) (**h 1, 69 m 56 Kg**). She was started on psycho-educational therapy and sertraline 50mg per day. After a four-weeks treatment she binged once per week, and occasionally practiced self induced vomiting. Her separation and social anxiety symptoms improved and her polarization on weight and shape reduced. At the end of the 12 weeks follow-up her weight was 56kg, she binged once in two weeks she did not purge but kept on with caloric restriction and experienced significant weight and shape polarization. (**BMI = 19,6; CGI = 3**).

Patient 5

B.E. is a 20-years-old young women, student who reached first psychiatric observation with a (**BMI of 19, 3**) (**h 1, 66 m 53 Kg**). She had obsessive compulsive symptoms and social anxiety symptoms persistent during the last two years that did not satisfy diagnostic criteria for axis-I diagnosis.

She reported overweight problems and polarization of ideas on weight and shape since her childhood. During her adolescence her weight has always been 1,66m on 66kg of weight. At the age of 19 she started qualitative and quantitative caloric restriction reaching 47 kg (**BMI = 17,1**) about two years before her admission to our program. The weight loss caused a secondary amenorrhea that led the patient to gynaecological observation. The Gynaecologist referred her to psychiatric consultation. The patient refused psychiatric consultation but, after losing control on eating behaviour with daily binges and purging she accepted psychiatric consultation. During the last month before consultation she had significant depressive symptoms and preoccupations with shape and weight phobia worsened.

At her admission to the program she was started on citalopram up to 15 mg per day with only partial improvement of symptoms. She kept bingeing and vomiting 3 times per week, stopped laxative abuse, and improved her caloric restriction reaching 57Kg of weight (**BMI = 20,7**). The patient's mood and her anxiety symptoms improved, but she kept on bingeing and vomiting (**CGI = 5**). She was switched to sertraline 50mg per day. Over the following four weeks she reported a progressive reduction in bingeing and vomiting. After six weeks of treatment her weight stabilised at 52 Kg and she had no more significant weight changes. At the 12th week she reported a weight of 51Kg, with weekly binges and occasional (once in fifteen days) self induced vomiting, she did not report significant anxiety or depressive symptoms (**BMI = 18,5**) (**h 1, 66 m 51 Kg**) (**CGI = 3**).

Patient 6

L. L. a 42-years-old woman housewife, married, presented with a **BMI of 35,1** (**h 1, 56 m 85,5 Kg**). She had cyclotimic temperament and obsessive-compulsive traits. She reported to have been bingeing since the age of 12, she also started taking laxatives, diuretics and other drugs in order to prevent weight gain during her adolescence. At the age of 32 she had a depressive episode self treated with benzodiazepines. At 33 years she was 52Kg 156 cm and she started to have night binges with no compensatory behaviours. During the following years before psychiatric consultation she kept on daily bingeing with compensatory caloric restriction and self induced vomiting twice a week with weight swings from 90 to 72 kilos.

At her admission to eating disorders program she was 85Kg of weight, binged daily with weekly self induced vomiting, she was preoccupied with her inability to recover her former weight (**BMI = 34,9; CGI = 5**).

She was started on sertraline up to 50 mg per day and psychoeducational psychotherapy. After one month she still binged 4 or 5 times per week and sertraline was increased up to 100mg/day, presenting occasional tremors and headache, sweating and anorgasmia her weight reached 83,3 kg. After 2 months she binged once per week and her weight was 81,5Kg. During the following month she had a partial worsening with an average of 7 binges and purges per week. During the following month the patient was clinically stable on two binges per week with no purging, no laxatives or diuretics abuse, her weight was 80,0 (**h 1, 56 m 80,0 Kg**) (**BMI = 32,9**) (**CGI = 4**).

Patient 7

C. S. is a 22-years-old women, student, presented with a **BMI of 18,8 (h 1,68 m 53,0 Kg)**. Her clinical history include cyclotimic temperament symptoms. When she was 20 she started to polarize on body weight and shape, and began quantitative and qualitative caloric restriction. She also started to present depressive symptoms (tearful, sad, diminished pleasure in almost all activities, sleep disturbances with occasional irritability and difficulties to concentrate). During the year preceding psychiatric consultation she started to present binges followed by self induced vomiting on average twice a day, reaching 53 Kg of weight h 168 cm. She was so concerned with shape and weight that she practiced compulsory daily physical activity, abused of laxative and diuretics several times per week (**CGI = 5; BMI = 18,78**)..

At her admission to the program she was proposed psychoeducational psychotherapy and sertraline starting from 25 mg/day up to the suggested dose of 100mg/day in about two weeks. After four weeks of treatment sertraline dose has been increased up to 150mg per day and trazodone was added to treat sleep disturbances. After 6 weeks of treatment she had daily bingeing and vomiting but reported no laxative or diuretics abuse. After 9 weeks of treatment she started to take sertraline 200mg per day. At the end of the observation she was 51 Kg of weight (**h 1, 68 m 51,0 Kg**), she had bingeing and vomiting on most of the days of the week, but she dropped laxative and diuretics abuse and practiced no compulsory physical activity (**CGI = 4; BMI = 18,1**)

Results:

Seven patients have been selected for this report. Age, sex, status and treatment doses are reported in every case vignette.

In the total sample, at the beginning of the follow up period, the weekly average binge eating frequency was 6.7, CGI medium score was 4.8, the average weight was 60.7 kg, and average BMI was 22.6.

The average weekly frequency of vomiting episodes was 5.8 in six subjects.

At the end of the follow up period the weekly average binge eating frequency was 2.0 with a reduction of 71.15 %, CGI medium score was 3.6 with a reduction of 1.2 points with 3 subjects only reporting self induced vomiting (one of them less than once in two weeks).

Patients had an average body weight reduction of 2.3 Kg and an average BMI reduction of 0.9 as the average body weight of 58,3 kg in the beginning and average BMI was 21.7 at the end of the follow-up.

Subjects received pharmacological treatment with sertraline in open label conditions from 25 to 200mg/day (average dose 89.3 mg/day), in one case another drug was added to treat sleeping disturbances. Side effects related to sertraline treatment were nausea, headache and dizziness, none of whom required the interruption of the treatment. All patients received psycho educational therapy according to the model defined in "Bulimia Nervosa, Una Guida Pratica" (Di Fiorino e Pacciardi 2008).

	T0	T1
Average weight	60,7	58,3
Average height	1,64	1,64
BMI	22,6	21,7
Binges/week	6,7	2
CGI average score	4,8	3,6

Discussion

These case reports are in line with the data reported from Sloan and Milano (Sloan et al 2004; Milano et al 2004) suggesting that sertraline may be useful and well tolerated in bulimia nervosa treatment, as eating disorder symptoms improved in all the patients in our sample. Treatment improved core eating disorder behaviours, with a decrease in frequency of bingeing episodes (71.15%), and improvement of CGI score (1.2 point).

In our sample subjects with sertraline treatment had an average body weight reduction of 2,4 Kg and an average BMI reduction of 0,9 during 12 weeks.

The decrease of body weight that we observed in these cases would be in line with studies reporting improvement in eating disorders symptoms associated with significant weight loss in patients with Eating Disorder receiving Sertraline treatment (Leombruni et al 2006; McElroy et al 2000) and with studies reporting sertraline treatment of obesity (Appolinario et al 2004; Leombruni et al 2008). In these case reports we tried to give some evidence about the role of one extensively used SSRIs in Eating Disorders, and particularly on its effects on body weight.

Sertraline seems to reduce core eating disorder behaviors and it seems to help reducing or maintaining weight in normal or overweight patients with bulimia nervosa. Thus even though sertraline seems to be an option for the treatment of BN, the methodological limitations of this open study do not allow us to generalize from the positive outcomes. Further studies might confirm these initial observations and establish whether a satisfactory therapeutic response and weight loss can be obtained in BN with sertraline treatment.

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