Efficacy and Safety of Fluvoxamine in Body Dysmorphic Disorder

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Background: Body dysmorphic disorder (BDD), a preoccupation with an imagined or slight defect in appearance, has been noted in case reports, retrospective studies, and clinical series to respond to serotonin reuptake inhibitors (SRIs). These data further suggest that the delusional variant of BDD (delusional disorder, somatic type) may also respond to SRIs. However, systematic pharmacologic treatment studies of BDD and its delusional variant are needed.

Method: Thirty subjects with BDD or its delusional variant (DSM-IV) were prospectively treated in an open-label fashion with fluvoxamine for 16 weeks. Subjects were assessed at regular intervals with the Yale-Brown Obsessive Compulsive Scale Modified for BDD (BDD-YBOCS), the Clinical Global Impressions (CGI) scale, the Hamilton Rating Scale for Depression, the Brown Assessment of Beliefs Scale, and other measures.

Results: BDD-YBOCS scores (mean ± SD) decreased from 31.1 ± 5.4 at baseline to 16.9 ± 11.8 at termination ($p < .001$). Nineteen (63.3%) subjects were rated as responders on the BDD-YBOCS and the CGI (10 [33.3%] were much improved, and 9 [30.0%] were very much improved). Delusional subjects were as likely to respond to fluvoxamine as nondelusional subjects, and delusionality significantly improved. All 5 responders who were delusional at baseline were no longer delusional at study endpoint. The mean dose of fluvoxamine was 238.3 ± 85.8 mg/day, and mean time to response was 6.1 ± 3.7 weeks. Fluvoxamine was generally well tolerated.

Conclusion: These results suggest that fluvoxamine is a safe and effective treatment for BDD, including its delusional disorder variant. Controlled treatment trials are needed to confirm these findings.

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Body dysmorphic disorder (BDD), a preoccupation with an imagined or slight defect in appearance (e.g., "thinning" hair or a "large" nose), has been said to be "extremely difficult" to treat.[1] Many patients with this disorder seek nonpsychiatric treatment, often surgical or dermatologic, but are often dissatisfied with the results.[2–4] Some think they look even worse after receiving such treatment, and they may obtain multiple procedures in an attempt to eradicate the perceived defect.[4]

Psychiatric approaches to the treatment of this distressing and sometimes debilitating disorder have received little investigation, even though BDD has been recognized for more than 100 years and appears to be relatively common.[4–6] Early case reports noted mixed but generally negative outcomes with a variety of psychotropic agents, including tricyclic antidepressants, neuroleptics, benzodiazepines, and mood stabilizers.[4] However, several case reports noted improvement with serotonin reuptake inhibitors (SRIs). One report described a patient preoccupied with his "small" genitals who responded to clomipramine,[7] and subsequently Hollander and colleagues[8] reported that five patients who had failed a variety of psychotropic agents responded to clomipramine or fluoxetine. Subsequent case reports have noted response to SRIs in adults,[9] adolescents,[10,11] and children[12] with BDD, in many cases after failure to respond to other medications, psychotherapy, or surgery.

Uncontrolled retrospective data from a series of 130 patients suggest that SRIs may be preferentially effective for BDD, with 42% of 65 SRI trials (fluoxetine, clomipramine, fluvoxamine, sertraline, or paroxetine) resulting in much or very much improvement on the Clinical Global Impressions (CGI) scale, in contrast to 30% of 23 trials with MAO inhibitors, 15% of 48 trials with non-SRI tricyclics, 2% of 83 trials with neuroleptics, and 6% of 99 trials with a variety of other medications (e.g., mood stabilizers).[13] Similarly, in another uncontrolled retrospective series of 50 patients with BDD, 35 SRI trials resulted in mean improvement on the CGI of 1.9 (much improved), whereas 18 non-SRI tricyclic trials resulted in no overall improvement in BDD symptoms.[14] Among six patients who had received fluvoxamine, the mean CGI change score for BDD

symptoms was 1.8 (much improved), with all patients rated as much or very much improved.[15]

Data from a prospective clinical series of 45 patients also suggest that SRIs may be effective for BDD, with 70% (43 of 61) of SRI trials resulting in much or very much improvement on the CGI.[13] Similarly, in a 10-week open-label study of fluvoxamine by Perugi and colleagues,[16] 10 (67%) of 15 patients were considered much or very much improved on the CGI.

These preliminary findings, as well as BDD's phenomenological similarities to obsessive-compulsive disorder (OCD),[17,18] suggest that SRIs are promising for BDD. Of interest, available data[19] suggest that SRIs may also be effective for the delusional form of BDD, a type of delusional disorder, somatic type. With the exception of the Perugi study, however, patients in studies done to date were not systematically assessed at regular intervals, and no study has systematically evaluated treatment response with a reliable and valid severity rating scale for BDD or for delusionality.

In this study, we evaluate the efficacy and safety of the SRI fluvoxamine in 30 patients with DSM-IV BDD, using a reliable and valid severity rating scale for BDD. In addition, using a reliable and valid scale to evaluate delusionality, we assess response of delusional patients to fluvoxamine and whether delusionality (insight) improves with fluvoxamine treatment.

METHOD

Subjects

The study subjects consisted of 30 outpatients (21 [70.0%] women, 9 [30.0%] men; mean age = 33.3 ± 9.0 years; range, 20–53). Subjects were recruited at two study sites by newspaper advertisement and clinician referral. All subjects met DSM-IV criteria for body dysmorphic disorder,[20] which are as follows: (1) preoccupation with an imagined defect in appearance; if a slight physical anomaly is present, the person's concern is markedly excessive; (2) the preoccupation causes clinically significant distress or impairment in social, occupational, or other important areas of functioning; and (3) the preoccupation is not better accounted for by another mental disorder (e.g., dissatisfaction with body shape and size in anorexia nervosa). Patients with delusional preoccupations (delusional disorder, somatic type) were included because available data suggest that the delusional and nondelusional forms of BDD may be variants of the same disorder,[19] and these disorders may be double coded in DSM-IV.[20]

Inclusion criteria for the study were the following: (1) DSM-IV diagnosis of BDD or its delusional disorder variant for at least 6 months; (2) age 18–65 years; (3) minimum score of 5 on the first three items of the Yale-Brown Obsessive Compulsive Scale Modified for BDD (BDD-YBOCS)[21] (these items assess degree of preoccupation, distress, and impairment due to BDD symptoms); and (4) a minimum score of 7 on the NIMH Obsessive Compulsive Scale.[22] The NIMH Obsessive Compulsive Scale was adapted to BDD, and a minimum score of 7 was required to ascertain that BDD symptoms were of adequate severity for inclusion in the study.

Exclusion criteria were (1) unstable medical illness or clinically significant abnormalities on prestudy laboratory tests, ECG, or physical examination; (2) history of seizures; (3) current pregnancy or lactation, or inadequate contraception in women of childbearing potential; (4) requirement for a drug that might interact adversely with or obscure the action of the study medication; (5) recent clinically significant suicidality; (6) lifetime history of DSM-III-R bipolar disorder type I, schizophrenia, or dementia; (7) current or recent (past 6 months) DSM-III-R substance abuse or dependence; (8) initiation of psychotherapy or behavior therapy from a mental health professional within 3 months prior to study baseline; (9) previous treatment with fluvoxamine; and (10) treatment with investigational medication, depot neuroleptics, or ECT within 3 months, with fluoxetine within 6 weeks, or with other psychotropics within 2 weeks prior to study baseline. All subjects signed statements of informed consent after the study was thoroughly explained.

The subjects' demographic and clinical characteristics were similar to those of other series of patients with BDD.[23] For example, the most common areas of bodily concern were the skin (e.g., facial acne or scarring, in 63%), the hair (e.g., balding or hair texture, in 53%), and the nose (30%). Subjects generally disliked more than one body part (mean ± SD = 3.1 ± 2.1) over the course of their illness. Twenty-eight (93.3%) subjects performed associated compulsive behaviors such as excessive mirror checking, skin picking, reassurance seeking, or comparing with others. Mean ± SD age at onset of BDD was 14.7 ± 6.8 years, with a mean duration of illness of 18.6 ± 11.0 years. The most common current comorbid Axis I disorders were major depression (19 [65.5%] of 29), social phobia (9 [31.0%] of 29), and obsessive-compulsive disorder (9 [31.0%] of 29). Sixty-nine percent (18 of 26) had a comorbid personality disorder, most frequently avoidant personality disorder (in 13 [50%] of 26).

Assessments

BDD was diagnosed with a reliable semistructured diagnostic instrument for DSM-IV BDD[24] that is modeled after the Structured Clinical Interview for DSM-III-R (SCID).[25,26] Data on the clinical features of BDD (e.g., number of body areas of concern) were obtained with a semistructured instrument (Phillips KA, unpublished data). Associated psychopathology was assessed with

the SCID for DSM-III-R[25,26] and the Structured Clinical Interview for DSM-III-R for Axis II.[27,28]

The major outcome measures were the BDD-YBOCS[21] and the CGI.[29] The BDD-YBOCS is a 12-item semistructured clinician-administered scale that assesses severity of BDD during the past week. This scale, adapted from the Yale-Brown Obsessive Compulsive Scale (Y-BOCS),[30,31] assesses obsessional preoccupation with the perceived defect (time occupied, interference with functioning due to the preoccupation, distress, resistance against the preoccupation, and control over the preoccupation), associated compulsive behaviors (time spent, interference, distress if the behavior is prevented, resistance of the behaviors, and control over the behaviors), insight, and avoidance. The BDD-YBOCS has adequate interrater and test-retest reliability, internal consistency, and factor structure; preliminary data also support its convergent and discriminant validity. Scores range from 0 to 48. Response on the BDD-YBOCS was defined a priori as a 30% or greater decrease in total score, which corresponded to our clinical impression of significant improvement in BDD symptoms and is in the middle of the range typically used with the Y-BOCS in studies of OCD.

Delusionality was assessed with the Brown Assessment of Beliefs Scale,[32] a 7-item semistructured clinician-administered scale that assesses delusionality during the past week. Available data indicate that the scale has adequate interrater and test-retest reliability, internal consistency, factor structure, convergent and discriminant validity, and sensitivity to change. Items are conviction, perception of others' views, explanation of differing views, fixity, attempt to disprove beliefs, insight (recognition that the belief has a psychiatric etiology), and ideas/delusions of reference. The scale provides a dimensional rating of delusionality and also categorizes patients as delusional or nondelusional; scores range from 0 to 24. The 24-item Hamilton Rating Scale for Depression (HAM-D)[33] and the Montgomery-Asberg Depression Rating Scale (MADRS)[34] were used to measure current severity of depressive symptoms. Response on the depression instruments was defined a priori as a 50% or greater decrease in total score. The Y-BOCS[30,31] was used to measure severity of OCD in subjects with current OCD; data were obtained for six of nine subjects with current OCD. Response of OCD was defined a priori as a 30% or greater decrease in total score.

Side effects were assessed by asking study subjects at each visit whether they had experienced any adverse physical symptoms while taking the study medication. Side effects were classified using the COSTART side effect rating system[35] and were rated for severity, action taken, outcome, seriousness, and likely relationship to the study medication. Side effects judged as possibly, probably, or almost certainly related to the study medication are included in the reported rates.

All subjects were evaluated at study baseline with an ECG, a physical examination, and screening laboratory tests (complete blood count, chemistry screen, thyroid function tests, urinalysis including drug screen, and β-HCG pregnancy test). At the end of the study or at the termination visit for subjects who did not complete the study, a physical examination and laboratory tests were performed.

Procedures

After completing all baseline evaluations, subjects began receiving unblinded fluvoxamine 50 mg/day in this 16-week study. A fixed/flexible dosing schedule was used, with an attempt made to increase the dose to 50 mg b.i.d. on Day 5 and to 150 mg/day on Day 9 for 6 days. The dose was then further increased weekly by 50-mg/day increments to a maximum dose of 150 mg b.i.d. if tolerated. Subjects took no other psychotropic medications during the study except chloral hydrate 0.5–2.0 g/day if needed for insomnia. Psychotherapy of any form (including cognitive-behavioral therapy) was not initiated during the study.

Subjects were evaluated with the BDD-YBOCS, CGI, HAM-D, and MADRS at baseline and weekly for the first 4 weeks of the study, then every other week for the remainder of the study. The Y-BOCS (for subjects with current comorbid OCD) and the Brown Assessment of Beliefs Scale were completed at baseline and at Weeks 4, 8, 12, and 16. Medication side effects, vital signs, and weight were evaluated at each study visit. A tablet count was kept for each dose of medication taken. A study duration of 16 weeks was selected on the basis of data from clinical series, in which mean time to SRI response was 7 to 9 weeks,[13,15] with occasional patients requiring as long as 14 weeks.[13]

Statistical Analyses

Baseline and subsequent scores on continuous study measures were compared with paired t tests, two-tailed. Fisher's exact test was used for comparisons of categorical variables. Pearson correlation was used to assess the relationship between degree of change on various study measures. Mean values are accompanied by SD.

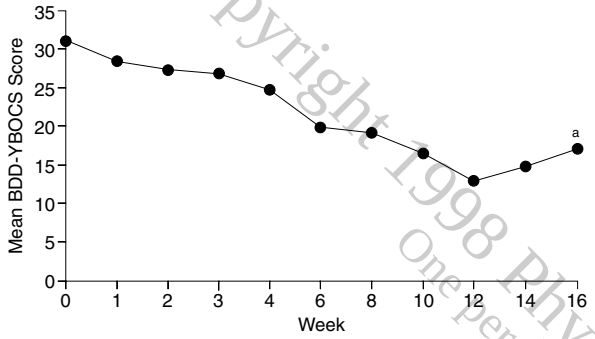
All analyses are intent-to-treat with last observation carried forward. A decision was made before beginning the study to include in intent-to-treat analyses only those subjects (N = 30) who returned for the first study visit after beginning fluvoxamine and who took the medication for at least 1 week. Three subjects (two female and one male) are not included in data analyses because they did not meet these criteria (one did not return for the Week 1 visit and could not be contacted; one returned after 2 weeks and had discontinued the study medication; and

Table 1. Mean ± SD Scores for the BDD-YBOCS, BABS, HAM-D, and MADRS*

Scale	Baseline	Week 4	Week 8	Week 12	Week 16/ Termination†
BDD-YBOCS	31.1 ± 5.4	24.7 ± 7.4[a]	19.0 ± 9.6[a]	12.8 ± 10.2[a]	16.9 ± 11.8[a]
BABS	14.5 ± 4.4	14.6 ± 4.6	10.8 ± 6.4[c]	8.9 ± 5.5[a]	9.5 ± 5.8[a]
HAM-D	21.9 ± 7.3	16.8 ± 7.5[b]	13.4 ± 7.2[a]	10.5 ± 6.3[a]	12.4 ± 7.3[a]
MADRS	24.4 ± 8.8	19.2 ± 8.1[b]	13.7 ± 7.2[a]	11.7 ± 10.1[b]	12.7 ± 9.3[a]

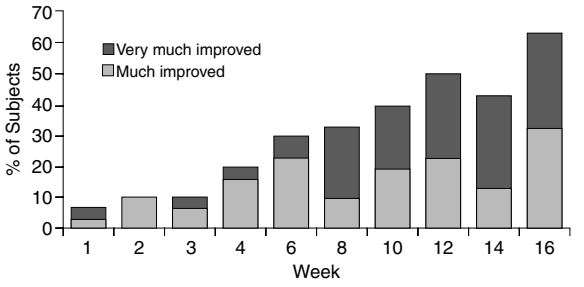
*Abbreviations: BDD-YBOCS = Yale-Brown Obsessive Complusive Scale Modified for Body Dysmorphic Disorder, BABS = Brown Assessment of Beliefs Scale, HAM-D = Hamilton Rating Scale for Depression, MADRS = Montgomery-Asberg Depression Rating Scale.
†Last observation carried forward.
[a]p < .001; [b]p < .01; [c]p < .05, between baseline and study week.

Figure 1. BDD-YBOCS Scores Over Time for 30 Patients Receiving Fluvoxamine for Body Dysmorphic Disorder*†



*Abbreviation: BBD-YBOCS = Yale-Brown Obsessive Compulsive Scale Modified for Body Dysmorphic Disorder.
†Significant difference between Week 0 and Week 16 (p < .001).
[a]Last observation carried forward.

Figure 2. CGI Scores Over Time for 30 Patients Receiving Fluvoxamine for Body Dysmorphic Disorder*



*Abbreviation: CGI = Clinical Global Impressions scale.

one did not take the medication and was hospitalized for increasing symptoms of BDD, depression, and suicidal ideation).

RESULTS

Of the 30 subjects, 18 (60%) completed the 16-week study. Scores on the BDD-YBOCS decreased from 31.1 ± 5.4 at baseline to 16.9 ± 11.8 at termination ($t = 6.7$, $df = 29$, $p < .001$), a decrease of 45.6% (see Figure 1 and Table 1). Scores significantly decreased on all 12 items of the BDD-YBOCS. BDD-YBOCS scores decreased by at least 30% in 19 (63.3%) subjects. Similarly, on the CGI, 19 (63.3%) subjects were considered responders, with 10 (33.3%) rated as much improved and 9 (30.0%) as very much improved (Figure 2).

Mean time to response (30% or greater decrease in BDD-YBOCS score) was 6.1 ± 3.7 weeks (range, 1–16 weeks). Of the 19 responders, 3 (15.8%) were much or very much improved on the CGI by Week 2; an additional 5 subjects (26.3%) responded by Week 4, 5 (26.3%) at Week 6, 2 (10.5%) at Week 10, 3 (15.8%) at Week 12, and 1 (5.3%) at Week 14. The mean dose of fluvoxamine at termination was 238.3 ± 85.8 mg/day (range, 50–300 mg/day).

Subjects with delusional BDD (delusional disorder, somatic type) were as likely to respond to fluvoxamine as those who were not delusional. Five (71.4%) of 7 delusional subjects responded, with a mean decrease in BDD-YBOCS scores in this group of 47.3%, from 34.1 ± 3.3 to 17.7 ± 12.4 ($t = 3.3$, $df = 6$, $p < .05$). Fourteen (60.9%) of 23 nondelusional subjects responded, with BDD-YBOCS scores in this group decreasing by 45.0%, from 30.2 ± 5.7 to 16.6 ± 11.9 ($t = 5.7$, $df = 22$, $p < .001$). In addition, delusionality significantly improved with fluvoxamine treatment, with total score on the Brown Assessment of Beliefs Scale decreasing from 14.5 ± 4.4 at baseline to 9.5 ± 5.8 at termination ($t = 5.0$, $df = 29$, $p < .001$) (Table 1). More specifically, all 5 of the delusional patients who responded to fluvoxamine were no longer delusional at study termination.

Depression scores also significantly improved, with scores on the HAM-D decreasing from 21.9 ± 7.3 to 12.4 ± 7.3 ($t = 5.5$, $df = 29$, $p < .001$), a mean decrease of 38.8%, and scores on the MADRS decreasing from 24.4 ± 8.8 to 12.7 ± 9.3 ($t = 5.5$, $df = 29$, $p < .001$), a mean decrease of 38.4% (Table 1). Change in BDD-YBOCS and depression scores were significantly correlated for the HAM-D ($r = .40$, $p < .05$) and the MADRS ($r = .39$, $p < .05$). Nonetheless, 6 subjects experienced response of BDD but not depression, and, conversely, 1 experienced response of depression but not BDD. Subjects without major depression at study baseline were as likely to experience response of BDD symptoms as those with

current major depression (6 [60.0%] of 10 and 12 [63.2%] of 19, respectively). Mean time to response of depressive symptoms was 6.3 ± 4.7 weeks, similar to that for BDD.

OCD symptoms did not significantly improve in subjects with current comorbid OCD (mean Y-BOCS score of 23.8 ± 4.7 at baseline, 22.2 ± 3.5 at endpoint; change in mean BDD-YBOCS score in these 6 subjects, 3 of whom were early dropouts, was not significant either: 32.3 ± 4.7 at baseline, 21.2 ± 11.5 at endpoint). Change in BDD-YBOCS and Y-BOCS scores was not significantly correlated (r = .22). Two subjects experienced response of BDD but not OCD, none had response of OCD but not BDD, 3 had response of neither disorder, and 1 had response of both disorders. Subjects without current comorbid OCD were as likely to experience response of BDD symptoms as those with current comorbid OCD (13 [65.0%] of 20 and 5 [55.6%] of 9, respectively).

Response to fluvoxamine was not related to illness severity as assessed by the CGI. The 1 subject rated as mildly ill on the CGI did not respond, whereas response occurred in 10 of the 15 subjects rated moderately ill, 7 of the 11 rated markedly ill, 1 of the 2 rated severely ill, and in the 1 subject rated among the most extremely ill patients. Similarly, neither baseline BDD-YBOCS scores nor baseline NIMH Obsessive Compulsive Scale scores were significantly correlated with magnitude of improvement on the BDD-YBOCS.

Six of the 19 fluvoxamine responders discontinued the medication after completing the study, all of whom relapsed. One subject discontinued fluvoxamine several times and relapsed each time. Relapse occurred within 4 days to approximately 2 months, with four of six subjects relapsing within a month. BDD symptoms significantly improved each time an SRI was restarted (fluvoxamine in three cases and sertraline in one case). One of these patients failed to respond to subsequent trials of clomipramine and paroxetine but then responded to reinitiation of fluvoxamine; another failed to respond to a subsequent trial of nefazodone but then responded to sertraline.

The most common adverse events were drowsiness, fatigue, or sedation (N = 12 [40.0%]); insomnia (N = 11 [36.7%]); jitteriness or agitation (N = 8 [26.7%]); nausea (N = 8 [26.7%]); headache (N = 6 [20.0%]); decreased libido or sexual dysfunction (N = 5 [16.7%]); tremor (N = 3 [10.0%]); dizziness (N = 3 [10.0%]); constipation (N = 2 [6.7%]); anxiety (N = 2 [6.7%]); anorexia (N = 2 [6.7%]); teeth clenching (N = 2 [6.7%]); sweating (N = 1 [3.3%]); and indigestion (N = 1 [3.3%]). Side effects were generally fairly mild, well tolerated, and often transient. Regarding use of concomitant medication, 2 subjects required chloral hydrate for insomnia, and 1 subject who had taken clonazepam prior to the study restarted it at study Week 10 (0.5 mg b.i.d.) for anxiety.

Of the 12 subjects who terminated early from the study, 1 dropped out at Week 2 because of sedation and another at Week 10 because of moderate fatigue and lack of efficacy. Two subjects were terminated early because they required hospitalization, 1 at Week 10 for increasing symptoms of depression and suicidal ideation in the context of multiple life stressors, although her BDD was much improved and fluvoxamine was continued. The other subject was hospitalized after overdosing with 10–12 fluvoxamine tablets (50 mg each) over 6 hours and then 5.0 mg of lorazepam over 8 hours, without adverse sequelae. Another subject was terminated at Week 3 because she developed homicidal ideation due to the belief that others were mocking her appearance. The remaining 7 subjects were terminated early for the following reasons: protocol violation (missing the medication) (N = 3), protocol violation and lack of improvement (at Week 4) (N = 1), stopping the medication for unclear reasons (N = 1), not attending the study visits and inability to be contacted (N = 1), and pregnancy (N = 1).

DISCUSSION

To our knowledge, this is the first open-label medication study of BDD using a reliable and valid outcome measure for this disorder. The findings, while preliminary, suggest that fluvoxamine is a safe and effective treatment for BDD, including its delusional variant. Response to medication usually resulted in decreased distress and time preoccupied with the perceived defect, as well as diminished compulsive behaviors, such as mirror checking, skin picking, and excessive grooming. Avoidance of social situations usually decreased, and functioning usually improved. In some cases, functioning improved dramatically; one patient, for example, started to go out of his house, socialize, and applied for a job for the first time in 6 years.

It is notable that fluvoxamine was as effective for delusional patients as for nondelusional patients, similar to results with a variety of SRIs from our clinical series.[19] While delusionality and associated delusions of reference are generally thought to respond only to neuroleptics, these findings suggest that at least some types of psychosis may respond to SRIs. An unanswered question is whether patients with delusional BDD respond to neuroleptics; available data are limited to a small number of cases and are inconclusive.[1,4,19] The efficacy of neuroleptics for BDD, especially its delusional variant, needs to be studied.

In addition to the frequent response of delusional BDD to fluvoxamine (as assessed by the BDD-YBOCS and the CGI), delusionality (insight) also often improved (as assessed by the Brown Assessment of Beliefs Scale); that is, many patients became aware that the defect was not as ugly or abnormal in appearance as they had previously considered it to be. Improvement in delusionality occurred in all of the delusional subjects who responded to

fluvoxamine, so that none of them were still delusional at study endpoint. Similarly, ideas and delusions of reference (i.e., thinking that others were taking special notice of, talking about, or mocking the defect) also improved with response to fluvoxamine. It is our clinical impression that, in some subjects, the basis of improved insight was resolution of a likely visual illusion, as some fluvoxamine responders reported that the defect was improved or even no longer visible after treatment. One subject, for example, said that he had discovered that fluvoxamine makes hair grow (stating that he actually saw more hair on his head). This observation is interesting, given that the visual system is modulated by serotonin.[36]

Another interesting observation is that, in two subjects, preoccupation with an actual and noticeable physical "defect" decreased, suggesting that fluvoxamine may also be effective for appearance preoccupations that would not be diagnosed as BDD because the defect is not imagined or slight. These two subjects, who were considerably overweight, were preoccupied with their weight (in addition to nonexistent or slight appearance flaws that qualified for the diagnosis of BDD). This observation raises the question of whether fluvoxamine and other SRIs might be helpful for individuals with "real" and obvious defects (e.g., secondary to congenital defects or accidents) who are overly preoccupied with and distressed or impaired by their concern with the defect.

While major depression tended to improve with fluvoxamine treatment, some subjects had improvement in BDD but not major depression and vice versa. In addition, subjects without major depression were as likely to experience improvement in BDD as those with major depression. These findings suggest that improvement in BDD symptoms is not dependent on improvement of depressive symptoms and furthermore suggests that BDD is not simply a symptom of major depression. Our findings in subjects with current OCD, while limited by the small number of subjects and high dropout rate in this subgroup, similarly suggest that improvement in BDD is not dependent on improvement of OCD and that BDD is not simply a symptom of OCD.

It is worth noting that the more severely symptomatic patients in this study were as likely to respond to fluvoxamine as those who were less ill. The study subjects as a group had BDD symptoms in the moderate-to-severe range (the mean BDD-YBOCS score at baseline [31.1 ± 5.4; range, 19–40] being higher than that obtained in our series of 188 patients with DSM-IV BDD [28.6 ± 7.6]). It is our impression that illness severity, the high rate of Axis II disorders, and the length of the study may have been largely responsible for the relatively high dropout rate.

Despite the relatively rapid titration schedule used in this study, the mean time to response was fairly long and more similar to that generally found for OCD than for depression. This finding is consistent with data on fluvoxamine from Hollander and colleagues' clinical series[15] and from Perugi and colleagues' study, which reported a time to response of 6 to 10 weeks and noted that more than 10 weeks may be required.[16] Thus, it appears that a relatively long treatment trial (up to 12 or even 16 weeks) is needed before concluding that an SRI is ineffective for BDD.

The mean dose of fluvoxamine at study endpoint was relatively high and similar to that reported elsewhere,[15,16] suggesting that doses higher than those typically effective for major depression may often be necessary for BDD. However, an attempt was made in this study to raise the dose to 300 mg/day, and dose-finding studies are needed to ascertain the optimal dose of fluvoxamine and other SRIs in the treatment of BDD.

The relatively high rate of presumed side effects may be attributable to the fairly rapid rate of medication titration used and the relatively high mean final dose. The medication was generally well tolerated, however, similar to the findings of Perugi and colleagues[16]; only one subject dropped out of the study primarily because of side effects.

While promising, the results of this study should be considered preliminary because of their uncontrolled nature and require confirmation in controlled trials. Our finding that six patients relapsed with fluvoxamine discontinuation and that four of four improved again with medication reinitiation suggests but does not prove that fluvoxamine was responsible for improvement in BDD symptoms. In particular, studies are needed in which SRIs are compared with placebo and with other medications (e.g., non-SRI tricyclics) to determine whether SRIs are preferentially effective for BDD. Response of a broader range of comorbid disorders, such as social phobia, needs to be assessed in future treatment trials. Studies are also needed to confirm our finding that fluvoxamine is effective for delusional BDD and can lead to improved insight and decreased referential thinking. Finally, an intriguing question for future study is whether other types of delusional disorder (e.g., the jealous type or other variants of the somatic type) might respond to SRIs such as fluvoxamine.

Drug names: clomipramine (Anafranil), chloral hydrate (Noctec and others), clonazepam (Klonopin), fluoxetine (Prozac), fluvoxamine (Luvox), lorazepam (Ativan and others), nefazodone (Serzone), paroxetine (Paxil), sertraline (Zoloft).

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