

Emotional Effects of Sertraline: Novel Findings Revealed by Meditation

Roger Walsh, MD, PhD
University of California, Irvine

Bruce Victor, MD and Robin Bitner, MD
University of California, San Francisco

Use of selective serotonin reuptake inhibitors continues to increase, as does concern about previously unrecognized, subtle side effects and questions about whether these drugs produce effects on healthy subjects. The authors report novel emotional effects identified by an experienced, psychologically healthy mediator who is a psychiatrist and researcher. On a meditation retreat, the subject identified a specific profile of emotional changes related to sertraline use. In particular, cognitive abilities and the emotions of fear and anger seemed unaffected. However, the emotions of sadness, happiness, rapture, and love were dramatically reduced in intensity and duration.

Keywords: sertraline, meditation, emotion

In recent years, the use of selective serotonin reuptake inhibitors (SSRIs) has increased dramatically, making them among the most commonly prescribed medications in medical practice. This increase reflects both pharmacological and social factors. In terms of pharmacology, compared to earlier antidepressant compounds, SSRIs have fewer side effects, lower lethality, and a broader spectrum of action. Social factors include an increase in the apparent incidence and severity of depression as well as increased social acceptance of antidepressant therapy by both patients and clinicians (Borch-Jacobson, 2002; Jain & Jain, 2002; Kramer, 1993; Olsson et al., 2002; Pignarre, 2001).

However, there is growing concern that SSRIs may have previously unrecognized, subtle side effects, such as apathy and cognitive blunting. The *American Psychiatric Association Textbook of Psychiatry* (Hales, Yudofsky, & Talbott, 1999) refers to "apathy syndromes," characterized by "loss of motivation, increased passivity and feelings of lethargy and 'flatness'" (p. 1038). More dramatic extensions of this phenomenon, such as a "frontal lobe" syndrome, have also been reported (Abel, Ighal, & Holzer, 1998; Garland & Baerg, 2001; Hoehn-Saric et al., 1991; Hoehn-Saric, Lipsey, & McLeod, 1990; Opler, Ramirez, & Lee, 1994).

Recent research has also examined whether these medications exert effects on people who are not suffering from Axis I diagnoses. Goodwin (1997) expressed the belief that any drug that alters abnormal personality is likely to alter normal personality as well. However, to date, the research data have been mixed. One study found no effects of fluoxetine on self- and observer-rated measures of mood, general well-being, or quality of life in healthy subjects (Gelfin, Gorfine, & Lerer, 1998). Conversely, paroxetine

reduced measures of negative affect and hostility and increased scores on social affiliation in healthy subjects (Knutson et al., 1998). A third study found that paroxetine and sertraline induced impairment in measures of cognitive, attentional, and psychomotor function in healthy, older adults, even though none of these subjects complained of related difficulties (Sherman, 2002). Clearly, there is cause for concern about possible subtle psychological side effects.

A novel approach to investigating subtle effects of SSRIs is to utilize subjects with exceptional introspective abilities. Considerable evidence now supports classic claims that meditation practice may significantly enhance perceptual capacities. Perceptual sensitivity, discrimination, processing speed, and empathy all appear to be enhanced, as measured by, for example, reaction time, evoked potential, Rorschach, tachistoscopic, and phenomenological reports. These perceptual changes are associated with a wide variety of psychological, biological, and therapeutic effects, including changes in dopamine activity (for reviews, see Kjaer et al., 2002; Murphy & Donovan, 1997; D. Shapiro & Walsh, 1984; S. Shapiro et al., 2002; S. Shapiro & Walsh, 2003; Walsh, 2000; Walsh & Vaughan, 1993; West, 1987). We therefore offer a case study of an experienced mediator who reported intriguing effects of sertraline on meditation experiences and affect.

Method

The Subject

The subject, Roger Walsh, was a 51-year-old Caucasian male trained in medicine, psychiatry, and neuroscience who had practiced meditation for over 20 years. That the subject had developed a degree of perceptual and introspective sensitivity is suggested by the amount of meditation practice, teachers' evaluations, his phenomenological reports, and the results obtained when he was a subject in a study of meditators' perception (Brown & Engler, 1986a, 1986b; Walsh, 1977, 1978). He was in good physical and mental health, except for a diagnostically undefined gastric motility disorder, for which SSRIs were prescribed. A trial of fluoxetine resulted in disabling side effects of lethargy, abulia, and amotivational syndrome.

He was subsequently switched to 50 mg sertraline daily and remained on this for a year. The only side effects identified during this time were mild insomnia, occasional anorgasmia, and reduced frequency and intensity of peak experiences. Peak experiences are brief altered states of conscious-

Roger Walsh, Department of Psychiatry and Human Behavior, College of Medicine, University of California, Irvine; Bruce Victor, MD, Department of Psychiatry, Medical School, University of California, San Francisco; Robin Bitner, MD, Department of Psychiatry, Langley Porter Psychiatric Institute, University of California, San Francisco.

We thank Drs. Owen Wolkowitz, Shauna Shapiro, Lorena Hillman, and Frances Vaughan for their helpful comments on this article.

For reprints and correspondence: Bruce Victor, MD, Department of Psychiatry, Medical School, University of California, 1819 Union Street, San Francisco, CA 94143. E-mail: bsvmd@hotmail.com

ness marked by feelings of ecstatic affect and a transpersonal self-sense, that is, a self-sense extending beyond the usual personal, egoic, and somatic boundaries. Peak experiences can occur spontaneously in anyone but are especially common in psychologically healthy individuals and in long-term meditators (Maslow, 1971; Alexander, Rainforth, & Gelderloos, 1991).

The Brahma Vihara Meditations

The subject did a 3-week retreat to practice the Buddhist *brahma vihara* meditations, 2,500-year-old practices that focus on transforming emotions (Goleman, 1988; Tin, 1975; Walsh, 1999, 2000). The *brahma vihara* practices employ the continuous recitation of appropriate phrases to cultivate emotional qualities, such as love and compassion. Done continuously over days or weeks, the effects can be dramatic. The desired emotions, such as love, may develop to remarkable degrees, as may accompanying emotions, such as happiness and rapture,¹ and related qualities, such as concentration and calm.

In these meditative states, the mind is described as remarkably pliant or malleable. Just as a person trained in relaxation can rapidly elicit an experience of calm, so, too, an experienced *brahma vihara* meditator is said to develop "mental pliancy" and can quickly elicit specific mental qualities, such as those just described (Epstein, 1975; Nyanaponika, 1998; Tin, 1975).

Results

For the first 6 days of the retreat, the subject continued to take 50 mg sertraline daily. For the next 5 days, he reduced this to 25 mg as part of a preplanned gradual withdrawal to observe how the gastric motility disorder responded. During these initial 11 days (6 on 50 mg and 5 on 25 mg), he observed that the effects of the *brahma vihara* meditations were very dramatically less marked than in previous retreats he had done of this kind. In particular, the emotional qualities of happiness, rapture, and love, which previously had been intense to the point of ecstasy, were now far less intense and faded more rapidly than in the past.

After 11 days, the subject realized that this difference might be due to the sertraline. He therefore immediately began a systematic exploration of its subjective effects and, after a day, ceased taking the medication. This exploration made use of the mental pliancy—the ability described above that *brahma vihara* meditations confer—of eliciting certain mental qualities at will.

A specific profile of medication effects on mental qualities and capacities was observed. There were no discernable effects on nonemotional factors. For example, when the attentional and cognitive factors of concentration, initial attention, and sustained attention² were elicited, they appeared to arise to their normal degree and then to follow their usual pattern of diminishing slowly over a matter of minutes. The same was true of the emotions of fear and anger.

However, a very different intensity and time course were observed for the four emotions of sadness, happiness, rapture, and love. When deliberately elicited, each of these emotions began to arise as usual and could be clearly experienced. However, within a matter of seconds and before peaking, they simply disappeared and could no longer be felt. In particular, the three positive emotions of happiness, rapture, and love are usually extremely strong and enduring during *brahma vihara* retreats, far more powerful than at any other time. However, on this retreat, while the

subject was taking sertraline, they were dramatically less intense and less long lasting than in any previous retreat.

Ceasing and recommencing sertraline provided further observations. After the subject ceased all sertraline, the emotions of sadness, happiness, rapture, and love slowly reverted to their usual intensity and patterns. At the end of 5 days, there was significant, though still partial, normalization. However, during those 5 days the subject's gastric motility disorder exacerbated significantly, and on the 5th day he resumed 50 mg sertraline per day. Over the remaining 3 days of *brahma vihara* practice, the four emotions of sadness, happiness, rapture, and love once again regressed to less intense and less enduring profiles. The net result of this cessation and recommencement of medication was a tidy, albeit inadvertent, three part ABA single-case study design, a design that is particularly valuable for assessing intervention effects in single individuals (Masters, Burish, Hollon, & Rim, 1987).

Discussion

Limitations of This Study

There are clearly significant limitations to this study. First, it was a single-case study using only subjective measures. Future studies would benefit from using multiple subjects and both subjective and objective measures. Second, the ABA design, though valuable, was suboptimal, as the 5-day washout B phase and the final C phase, in which sertraline was reintroduced, were both relatively short. Third, the fact that the subject is a psychiatrist may perhaps make his observations more clinically astute but also raises the possibility of expectancy effects.

However, there are several factors that suggest that the observed changes were significantly more than expectancy effects. These include the dramatic nature and intensity of the changes and their specificity. In addition, the subject had not noticed any emotional effects during the previous year or on a previous retreat doing a different kind of meditation and so was not expecting emotional effects to emerge at this late stage.

Despite these significant limitations, the study offers unique opportunities and data. These include the rare—indeed, unique—combination of observations by a mental health professional with long-term introspective training, identification of a novel and highly specific profile of SSRI-induced emotional effects, and the finding that these effects were observable only during a specific kind of intensive meditation practice.

Psychopharmacologic Implications

This report holds several implications. First, it suggests that constrictive emotional side effects can begin at low doses, indeed, at what would be considered an appropriate "starting" dose of sertraline. Second, this report demonstrates how subtle and difficult to detect these side effects can be, as the subject first identified

¹ Rapture is an intense joy or ecstasy associated with concentrated, clear awareness, accompanied by pleasurable somatic sensations and piloerection (goose bumps).

² The classical Pali terms found in meditation texts for these mental capacities are *ekaggata* (concentration), *vitakka* (initial attention), and *vicara* (sustained attention).