ELSEVIER

European Neuropsychopharmacology 14 (2004) 347–351

EUROPEAN NEURO-PSYCHOPHARMACOLOGY

www.elsevier.com/locate/euroneuro

Bright light therapy in seasonal affective disorder – does it suffice?

Edda Pjrek*, Dietmar Winkler, Jürgen Stastny, Anastasios Konstantinidis, Angela Heiden, Siegfried Kasper

Department of General Psychiatry, University Hospital for Psychiatry, Währinger Gürtel 18-20, A-1090 Vienna, Austria

Received 9 October 2003; received in revised form 4 November 2003; accepted 4 November 2003

Abstract

Bright light therapy (BLT) has been proposed as treatment of choice for seasonal affective disorder (SAD). However, conventional antidepressants have also been found to be effective in this condition. We examined the psychopharmacologic medication in a clinical sample of 553 SAD patients, who had been treated with BLT, to assess the importance of drug treatment and to critically question the effectiveness of BLT. Forty-nine percent of our patients received psychopharmacologic treatment and about one third (35.4%) was treated with antidepressants, suggesting that BLT does not suffice as only antidepressant regimen for all SAD patients. Furthermore, our results show that only few patients with bipolar affective disorder were willing to accept long-term medication. Opposed to treatment guidelines, patients with several depressive episodes did not receive antidepressant maintenance medication or mood stabilizers more often than patients with only a few episodes.

Keywords: Seasonal affective disorder; Depression; Light therapy; Antidepressants; Mood stabilizers

1. Introduction

Seasonal affective disorder (SAD) is the term applied to a clinical subtype of mood disorder consisting of recurrent major depressive episodes that occur with a seasonal pattern. The most common type of SAD is winter depression with symptom onset in fall and winter followed by full remission or hypomanic (more seldom manic) states during the following spring and summer. SAD has been subject to research for about two decades: since the description of the syndrome and the early proposal of bright light therapy (BLT) as a promising treatment (Lewy et al., 1982; Rosenthal et al., 1984) over 700 scientific articles on this topic have been published.

Despite the fact that BLT has been shown to be an effective and well tolerated treatment for SAD (Lam et al., 1989; Rosenthal et al., 1985; Terman et al., 1989), the light therapy studies have been limited by very small study groups and difficulties in establishing a true placebo condition for light exposure (Blehar and Lewy, 1990; Brown, 1990; Eastman, 1990). In contrast to the numerous reports on BLT, there have been relatively few studies of the efficacy of psychopharmacologic medication for SAD (Kasper et al., 2001), although antidepressants are a standard treatment for major depression. There is a number of case reports and open studies with very small case numbers (below 20) on bupropion (Dilsaver et al., 1992), citalopram (Wirz Justice et al., 1992), fluoxetine/trazodone (Jacobson et al., 1989), hypericum extract (Martinez et al., 1994), mirtazapine (Hesselmann et al., 1999), moclobemide (Lingjaerde and Haggag, 1992), reboxetine (Hilger et al., 2001), L-tryptophan (McGrath et al., 1990), tranylcypromin (Dilsaver and Jaeckle, 1990), on the serotonergic agent D-fenfluramine (O'Rourke et al., 1989) and the benzodiazepine alprazolam (Teicher and Glod, 1990; Yamadera et al., 2001). However, a search of the scientific literature reveals a substantial lack of placebo-controlled studies, and many of these have failed to show a statistically significant difference over the comparator (Lingjaerde et al., 1993; Oren et al., 1994a,b; Rosenthal et al., 1988), due to insufficient sample size and other methodological problems. There are only two placebo-controlled trials on the selective serotonin reuptake inhibitors (SSRI) sertraline (Moscovitch et al., in press) and fluoxetine (Lam et al., 1995) and a further report on the beta blocker

* Corresponding author. Tel.: +43-1-40400-3568; fax: +43-1-40400-3099.

E-mail address: edda.pjrek@akh-wien.ac.at (E. Pjrek).

0924-977X/$ - see front matter © 2003 Elsevier B.V./ECNP. All rights reserved.
doi:10.1016/j.euroneuro.2003.11.003

propranolol (Schlager, 1994) that have been able to show the superiority of the study drug under consideration.

Since there is a considerable proportion of treatment non-responders in all light therapy trials and an apparent lack of methodically high-ranking antidepressant trials in SAD, we raised the question, how SAD patients had been treated in a clinical population in the last decade, how many of them had received BLT as monotherapy, and how non-responders to BLT had been treated in everyday practice. Thus, the aim of this study was to critically address the usefulness of BLT in a large clinical sample and to investigate the importance of psychopharmacological treatment in SAD.

2. Experimental procedures

Five hundred and fifty three outpatients (426 females, 127 males) suffering from SAD, winter type, who had visited the outpatient-clinic for SAD at the Department of General Psychiatry (University of Vienna, Austria) between 1994 and 2003, were included in this evaluation. Patients were diagnosed according to the *Diagnostic and Statistical Manual of Mental Disorders*, 4th ed., DSM-IV (American Psychiatric Association, 1994). Subjects had to obtain a global seasonality score (GSS) measured by the German version of the Seasonal Pattern Assessment Questionnaire (SPAQ) of 10 or higher (Kasper, 1991; Rosenthal et al., 1987); subjects with subsyndromal SAD (Kasper et al., 1989) were excluded from this evaluation. The mean GSS in our sample was 15.7 ± 3.2. Mean age was 39.6 ± 12.9 years. 77.4% of the patients were diagnosed as unipolar depression, 20.1% as suffering from bipolar-II affective disorder and 2.2% as bipolar-I. Three hundred and seventy eight patients (68.4%) fulfilled the DSM-IV criteria for the atypical feature specifier, 72 patients (13.0%) were diagnosed as melancholic depression.

Table 1
Use of psychopharmacologic medication in a sample of 553 outpatients with SAD

Patients receiving medication	271 (49.0%)
Antidepressants	196 (35.4%)
SSRI	135 (24.4%)
Tricyclic antidepressants	28 (5.1%)
SARI	21 (3.8%)
NaSSA	18 (3.3%)
Tetracyclic antidepressants	17 (3.1%)
NARI	10 (1.8%)
SNRI	8 (1.4%)
RIMA	7 (1.3%)
Anxiolytics (mainly benzodiazepines)	50 (9.0%)
Phytopharmacologic medication	43 (7.8%)
Hypericum extract	42 (7.6%)
Valerian extract	3 (0.5%)
Typical neuroleptics	18 (3.3%)
Atypical antipsychotics	4 (0.7%)
Melatonin	1 (0.2%)
Others	17 (3.1%)

SSRI, selective serotonin reuptake inhibitors; SARI, serotonin antagonist and reuptake inhibitors; NaSSA, noradrenergic and specific serotonergic antidepressant; SNRI, serotonin and noradrenalin reuptake inhibitors; RIMA, reversible inhibitor of monoaminoxydase A; NARI, noradrenalin reuptake inhibitor.

Table 2
Antidepressant medication in a sample of 553 outpatients suffering from SAD

		Number	% (absolute)	% (relative)
SSRI	Citalopram	42	7.6	30.4
	Fluoxetine	42	7.6	30.4
	Paroxetine	29	5.2	21.0
	Sertraline	19	3.4	13.8
	Fluvoxamine	4	0.7	2.9
	Escitalopram	2	0.4	1.4
Tricyclic antidepressants	Amitriptyline	17	3.1	58.6
	Doxepin	6	1.1	20.7
	Clomipramine	5	0.9	17.2
	Desipramine	1	0.2	3.4
SARI	Trazodone	19	3.4	48.7
	Nefazodone	2	0.4	5.1
NaSSA	Mirtazapine	18	3.3	100.0
Tetracyclic antidepressants	Mianserine	9	1.6	52.9
	Maprotiline	8	1.5	47.1
NARI	Reboxetine	10	1.8	100.0
SNRI	Milnacipran	4	0.7	50.0
	Venlafaxine	4	0.7	50.0
RIMA	Moclobemide	7	1.3	100.0

Given is the number of patients receiving a certain substance, the absolute percentage in the total sample and the relative percentage in the specific group of antidepressants. For abbreviations please refer Table 1.

All patients with a diagnosis of SAD were offered a therapeutic trial with BLT for 1 month. Lamps were supplied from our outpatient clinic (full spectrum light with 10,000 lx in 60–80 cm). Patients were advised to perform light therapy every day in the morning for at least 30–45 min. The method of chart review was applied to select patients with the above specified inclusion/exclusion criteria. The medication of these patients was recorded and categorized in several different groups of substances (Table 1).

Statistical analysis was carried out with SPSS for Windows (SPSS, 1989–2001). Frequency tables were calculated and appropriate statistical tests (Student's *t*-test for independent samples, likelihood-ratio chi-squared (χ^2) test, linear regression) were performed to assess differences in medication in regard to gender, age, diagnosis (major depressive disorder or bipolar affective disorder), number of affective episodes and clinical subtype (feature specifier according to DSM-IV). The $P \leq 0.05$ level of significance was adopted. All statistical comparisons were two-tailed.

3. Results

Forty-nine percent of the patients in our sample received a psychopharmacologic medication in addition to BLT