Electroconvulsive Therapy for Mood Disorders in Pregnancy

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Abstract: Electroconvulsive therapy (ECT) offers a treatment option for mood disorders during pregnancy. We retrospectively examined 12 pregnant patients who were treated with ECT for their mood disorders. The mean ± SD age of the patients was 28.1 ± 4.8 years. The mean ± SD number of ECTs performed was 9.8 ± 4.5. The mean ± SD Clinical Global Impression score was decreased from 6 to 2.6 ± 0.7 with ECT. No significant adverse events were observed other than early delivery in one patient and pes ekinovarus deformity in a newborn that was most probably not related to ECT causally. Electroconvulsive therapy seems to be an effective and safe treatment option in pregnant patients with mood disorders.

Key Words: pregnancy, mood disorders, electroconvulsive therapy

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Dear Editor:

Mood disorders that are left untreated during pregnancy may have some negative impact on both the course of pregnancy and the health of the fetus.[1] Deciding the type of treatment for mood disorders during pregnancy sometimes may be a big challenge for the physicians and also for their patients. Electroconvulsive therapy is an option for treating mood disorders in pregnancy. It usually provides a fast, safe, and effective treatment in pregnancy.[2,3]

To our knowledge, studies investigating the effects of ECT use for treating mood disorders seen during pregnancy are very scarce. In an attempt to fill this gap, we aimed to conduct a retrospective chart review of pregnant women who were treated with ECT for their mood disorders.

MATERIALS AND METHODS

Medical records and patient charts of the pregnant women who were hospitalized in a psychiatry clinic between January 2002 and January 2009 and received ECT for their mood disorders have been retrospectively reviewed. Local ethics committee approved the retrospective study.

All patients were examined by physicians from obstetric and gynecology and also from anesthesiology departments to ensure that they were eligible for ECT. All patients were monitored during ECT. Electrical stimulus was provided by an ECT machine MectaSpectrum 5000Q (MECTA Corporation, Lake Oswego, Oreg). Propofol and succinylcholine were used for anesthesia. Specific protocols were done for pregnant patients on tier second/third trimester, such as adjustment of supine patient in position to displace uterus toward left to avoid compression of vena cava and intubation due to higher risk of aspiration in more advanced stages of pregnancy.

Demographical and clinical variables have been reported, and Statistical Package for Social Sciences 13.0 version for Windows program has been used for descriptive analysis of the collected data.

RESULTS

Twelve married and pregnant women with a mean ± SD age of 28.08 ± 4.80 years have been included in the study. All patients had a psychiatric diagnosis even before their pregnancy. Three patients (25%) have reported at least one hospitalization for their preexisting psychiatric condition. Of the patients, 91.7% (n = 11) have acknowledged that the severity of their psychiatric disorder was increased during their pregnancy period. In all patients, ECT was the choice of treatment owing to their pregnancy. Gestational week of their first ECT session varied between 2 and 40 weeks. Some of the clinical variables of the study patients are shown in Table 1.

The mean ± SD number of bilateral ECTs performed was 9.8 ± 4.5 sessions. The mean Clinical Global Impression score before ECT was 6, whereas it was decreased to 2.6 ± 0.7 after the ECT sessions.

The pregnancy was terminated early in only one patient (8.3%), and the rest of the patients (n = 11, 91.7%) did not experience any complications even after delivery. Except the one who had pes ekinovarus deformity, 10 newborn babies (83.4%) were completely healthy after delivery. Data regarding the health status of the remaining one newborn were not reliable.

DISCUSSION

There has been an increased risk of deterioration of the course and increase in relapse risk in mood disorders during pregnancy.[1] In our study, 91.7% (n = 11) of the patients experienced increase in their symptoms during their pregnancy.

The main reason for deciding ECT treatment in all cases was their pregnancy. Electroconvulsive therapy is a well-known, effective, and safe treatment option both for major depression and bipolar disorder.[3]

Gestational week of the first ECT session varied between 2 and 40 weeks across the patients. Electroconvulsive therapy can be safely used in all trimesters of pregnancy.[3] The mean ± SD number of bilateral ECT sessions was 9.8 ± 4.5. In a previous review that retrospectively examined ECT treatments of 384 patients with various psychiatric diagnoses, the mean number of bilateral ECT sessions was reported to be 7.8, which provided at least partial response in 82.3% of the patients.[1,4] All the patients in our study showed at least partial response. Higher treatment response observed in our study population may be due to the absence of any concurrent medical condition, axis-II diagnosis, psychotic disorder like schizophrenia, and patients from geriatric age group that can interfere with it.

Maintenance ECT was performed to 2 patients (Table 1). Patient number 1 did not experience any complication and successfully gave birth to a healthy child, whereas patient number 10 delivered a child with pes equinovarus (PEV) deformity.

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TABLE 1. Some of the Clinical Variables of the Study Patients

Patient No.	Diagnosis	Gestational Week at First ECT Session	No. ECT Sessions	No. Maintenance ECT Sessions	Prescriptions of the Study Patients During Their Pregnancy
1	MDD-PF	2	15	3	Trazodon, 100 mg/d, oral, occasionally for sleep induction
2	PD/MDD	5	10	-	Citalopram, 20 mg/d, and clonazepam, 2 mg/d, oral, until fifth week of pregnancy
3	MDD-PF	30	4	-	Olanzapine, 10 mg/d, oral
4	MDD-PF	40	9	-	Escitalopram, 10 mg/d, oral, until fourth week of pregnancy
5	MDD	8	11	-	No medications during pregnancy
6	BD-M	16	7	-	Olanzapine, 10 mg/d, and clonazepam, 2 mg/d, oral
7	BD-D	32	3	-	Haloperidol, 2.5 mg, intramuscular, occasionally
8	BD-M	8	20	-	Olanzapine, 10 mg/d, oral
9	MD-NOS	10	10	-	Olanzapine, 5 mg/d, oral, until 10th week of pregnancy
10	BD-M	16	13	3	Haloperidol, 5 mg, intramuscular, occasionally
11	BD-D	24	6	-	Amisulpiride, 800 mg/d, and clonazepam, 2 mg/d, oral
12	PD/MDD	6	5	-	Fluoxetine, 40 mg/d, and clonazepam, 2 mg/d, oral

BD-D indicates bipolar disorder depressive episode; BD-M, bipolar disorder manic episode; CGI, Clinical Global Impression; MD-NOS, mood disorder not otherwise specified; MDD, major depressive disorder; MDD-PF, major depressive disorder with psychotic features; PD, panic disorder.

Previously, Impastato et al[5] had reported this deformity in the child of a pregnant woman who was treated with ECT. However, they argued against any causal relationship between ECT sessions, those performed to the mother, and the PEV deformity observed in her child.[5] Pes equinovarus is a congenital malformation that has familial transmission. A third-degree relative of the patient has congenital PEV deformity. Thus, we agree with the idea that known familial transmission aspect of PEV deformity should be kept in mind before concluding existence of a cause-and-effect relationship between ECT and that deformity.

Patient number 3 had a risk of early delivery even before ECT and experienced an early delivery after ECT. She was put on ECT treatment given her suicidality and homicidality. Although early delivery secondary to ECT was reported in some previous literature,[2] we feel that ECT cannot be accused totally for it to occur in our patient.

Comorbid panic disorder diagnosis was present in 2 patients (Table 1). Although ECT was performed on these cases owing to their depression, significant improvement of their panic symptoms were also detected by its use. Thus, when treating pregnant women with a diagnosis with both major depression and panic disorder, ECT may be kept in mind.

Despite drug use in most (91.7%) of our patients and treatment with ECT, we detected neither complication nor congenital anomaly, which can be directly linked to ECT or drug use. Depending on our case series presented in this study, ECT, either alone or in combination with psychotropic drugs, seems to be an effective and safe treatment option for pregnant women with a diagnosis of mood disorders.

Small sample size and absence of information about some minor but common adverse effects of ECT like headache, are limitations of our study.

In conclusion, ECT seems to be an effective and safe treatment option for mood disorders of pregnant women. Well-designed prospective studies with larger sample sizes are needed.

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