

Safety of modified electroconvulsive therapy (ECT) in the third trimester of pregnancy

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ABSTRACT

Electroconvulsive therapy (ECT) has been used as an effective treatment in the management of psychiatric disorders in pregnancy. Reports of ECT use in all trimesters of pregnancy are available in literature. When used judiciously with fetal monitoring it is a safe and effective treatment for psychiatric disorders in pregnancy. We report here a case of paranoid schizophrenia that successfully recovered with ECT and antipsychotic medication use during the third trimester of pregnancy.

Key words: pregnancy, psychiatric disorder, electroconvulsive therapy, ECT, schizophrenia.

INTRODUCTION

It is well known that pregnancy, being a stressor may exacerbate psychosis or precipitate it. It is seen that pregnant women are more likely to experience aggravation of psychosis than improvement [1]. Treatment of psychoses during pregnancy is very important as patient may have self neglect due to psychosis affecting her own health as well as of the foetus adversely. However, there are risks involved in the treatment of psychosis during pregnancy. Antipsychotics cross the placenta easily leading to teratogenic effects when given in first trimester; in the third trimester they induce side effects in mother and in the neonate [2].

Electroconvulsive therapy (ECT) has been indicated for specific indications during pregnancy [3]. In all trimesters, suicide risk, excitement, stupor, catatonia and aggression, severely ill patients, risk of harm to self or others and deterioration of the patient which does not respond to medication are indications for ECT. When there is concern about the teratogenicity, adverse effects of antipsychotics

and anticholinergics, modified ECT may be preferred. ECT is also an option in treatment refractory cases, neuroleptic malignant syndrome and malignant catatonia [4].

Though psychiatrists are reluctant to give modified ECT during pregnancy, ECT is safe in all trimesters of pregnancy [5]. Miller reviewed 300 cases of ECT in pregnancy between 1942 and 1991. He found that ECT does not appear to have teratogenic risk. Although few case reports suggest that there can be vaginal bleeding, uterine contractions, transient acute hypertension associated with ECT; no alterations of foetal heart rate, foetal movement or uterine tone during modified ECT have been reported [6]. We report here a pregnant patient with schizophrenia who did not respond to pharmacotherapy in her third trimester and was administered modified ECT.

CASE REPORT

A 26-year-old, 32 week pregnant middle class woman from an urban Indian background presented to our department brought by her husband with a history of attempting suicide by consuming poison. The patient had a history of suspiciousness towards her family members and felt they were against her and that they were planning to harm her. She had a history of fearfulness, anger outbursts, withdrawn behaviour, frequent crying episodes, not doing any household work along with sleep and appetite disturbances. The patient was treated in the past with antipsychotic medications but had stopped medication on the advice of a general practitioner once her pregnancy was detected. Her symptoms had exacerbated in the seventh month of her pregnancy. She had a history of a similar episode seven years prior to the current episode after the birth of her first child. She received a diagnosis of Paranoid Schizophrenia and had responded to antipsychotic medications during that episode (details were unavailable). Physical and systematic examination revealed no abnormality. The patient was uncooperative, agitated, restless, crying and wanting to go home. She was hypervigilant about the surroundings. The patient's active attention was ill sustained and passive attention was increased. Her mood was fearful and the affect was restricted. Delusions of persecution were present and she denied hallucinations. The patient had no insight into her present condition.

Laboratory studies, including complete hemogram, renal functions, blood sugars, liver and thyroid functions, urine analysis, chest X-ray, and electrocardiogram did not reveal any abnormality. Viability scan was done before starting treatment that detected a 32 week old viable foetus. The patient was started on Haloperidol and Promethazine (injectable formulation) in view of her aggressive behaviour and suicidal thoughts. She was also started on oral haloperidol (15mg per day in divided doses) & trihexyphenidyl (4mg per day in divided doses). In view of persistent suicidal ideas despite medication a decision of treating with modified bilateral ECTs was taken after 6-7 days of clinical assessment.

A standard procedure as mentioned in the literature was followed while administering ECT. A duly signed written high risk informed consent from husband and parents, explaining risks and benefits to both foetus & mother was obtained. Anaesthesia fitness for the procedure was sought from an obstetrician and the anaesthetist. Six modified bitemporal bilateral ECTs were given to the patient on an alternate day course. Patient was given day care general anaesthesia during each procedure. Adequate oxygenation was ensured. An obstetrician was present to monitor foetal heart rate before and after every ECT procedure. After every ECT, obstetric USG

was done to assess foetal well being. Obstetric USG after the first 5 ECTs revealed no abnormality while mild utero-placental insufficiency was observed after the 6th ECT. This was however clinically insignificant and the foetus was viable as per USG. After the 6th ECT the patient was maintained on antipsychotic medicine and was following up regularly. The course of ECTs was stopped after the 6th ECT as the patient was 80% better. 3 weeks after the treatments, the patient delivered a female child via normal delivery and the APGAR score of the baby was 8/10. No antipsychotic withdrawal symptoms and effects on the neonate were noted.

DISCUSSION

Psychiatric disorders during pregnancy are difficult to manage as psychotropic medication and maternal psychiatric illness may both have an untoward effect on the foetus. Women with schizophrenia are at increased risk for poor obstetrical outcomes, including preterm delivery, low birth weight, and neonates who are small for their gestational age also still birth and foetal mortality [7]. Psychotropic medication may pose maximum risk to the foetus if exposed during first trimester i.e. phase of organogenesis. If antipsychotics are administered in the third trimester then it may cause extrapyramidal side effects or drug withdrawal features in the neonate which may manifest as jitteriness, agitation, tremor, feeding problems, somnolence, breathing difficulties, hypertonia or hypotonia, a pronounced startle reflex and myoclonus [8].

ECTs are considered a safe treatment option during pregnancy. In the third trimester of pregnancy ECT is considered in case of a non-response to pharmacotherapy or presence of suicidal behaviour [2]. The patient above needed a high dose of antipsychotics that may have increased the risk of side effects to the foetus during the third trimester or in the neonatal period. She also had persistent suicidal ideation and hence ECT was considered as a viable treatment option. ECT use in pregnancy should preferably be considered only in settings where facilities to manage foetal emergencies are available and it is important that the presence of an obstetrician during the procedure is solicited [2]. The patient benefitted and did not have any side effects due to modified ECT during her pregnancy. This case demonstrates that when needed, ECT should be considered a preferred mode of treatment for psychiatric disorders in pregnancy. With proper procedure being followed and sound obstetric monitoring, the risk of side effects if any is greatly minimized while patients may show a faster improvement when ECT is considered [9].

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