ELECTROCONVULSIVE THERAPY IN CATATONIA ASSOCIATED WITH PNEUMOTHORAX

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Recent advances in the method of application and monitoring of Electroconvulsive therapy (ECT) has facilitated its use even in the presence of serious physical illness. This case report is of a patient in catatonic stupor who developed an acute respiratory crisis, and in whom the use of ECT led to quick recovery not only from the psychiatric state but also helped recovery from the medical illness. The report highlights the need to use ECT, if indicated, in the presence of serious medical illness without hesitation.

Key words: electroconvulsive therapy, serious physical illness.

INTRODUCTION

The usefulness and safety of Electroconvulsive therapy (ECT) in severe mental disorders especially in depressive illness and catatonia is beyond doubt. Its use in the elderly and in the presence of serious physical illnesses was, however, fraught with hesitation, but now knowledge is emerging that ECT is a low risk procedure (Weiner, 1989). An improved understanding of the mechanism, and availability of advanced monitoring techniques now enable its successful and safe application in a population previously believed to be too old or physically ill to undergo the stress of induced convulsions (Abrams, 1991).

Reports of its use in the presence of serious cardiovascular and central nervous system disorders in recent years (Regestein & Reich, 1985; Murray, 1986) suggest that ECT can be applied safely in physical conditions erstwhile considered to be contraindications to its use. With regard to respiratory illnesses, it is said that the presence of an acute respiratory infection generally warrants postponement of ECT (Shukla, 1989). We report the effective and safe use of ECT as an emergency measure in a catatonic patient with a serious respiratory illness in the form of acute bilateral pneumothorax.

CASE REPORT

Mr. S was a 45 year old man who had chronic schizophrenia, paranoid type with a past history of treatment for bilateral pulmonary tuberculosis. He presented with a recent onset catatonic withdrawal following a period of poor drug compliance. During the following month he did not respond fully to antipsychotic medication and progressed to a stuporous state. After admission in the intensive medical care unit, he developed spontaneous bilateral pneumothorax leading to a cardiorespiratory crisis and severe hypoxia. Following acute care for the crisis, there was little improvement in the respiratory condition due to the lack of compliance with chest physiotherapy as the patient was stuporous. This led to further metabolic and cardiovascular problems.

Clinical examination and detailed investigations including CT scan of the brain did not reveal any additional pathology. As antipsychotic drugs had been ineffective and were causing troublesome side effects, modified ECT was started, taking necessary precautions in view of the cardiorespiratory status. A bilateral sinusoidal wave-form electrical stimulus was applied with monitoring of vital signs in the intensive medical care unit. After the third ECT, the patient showed remarkable recovery from the catatonic state, which in turn lead to a resolution of the pneumothorax as the patient's efforts at breathing increased. There was also a complete remission of psychiatric symptoms. During the subsequent ten days of inpatient stay and five months of outpatient follow up no cardiorespiratory or neurocognitive disorder was evident.

DISCUSSION

The observations on the use of ECT in the presence of serious physical illness were restricted to the alleviation of the psychiatric disorder without worsening of the physical condition. Whether the ECT can have a beneficial effect on the organic illness, directly or indirectly, has not been often reported. However Ruedrich et al (1983) and Murray et al (1986) reporting on the use of ECT for depressions, in a hemiparetic due to trauma and post-stroke depressives respectively, highlighted improvement in the patients' neurological condition along with depression. This could have been due to improvement in cognitive dysfunction and better and easier implementation of neuro-rehabilitation as the patients recovered from depression.
The use of ECT instead of the available neuroleptics was necessitated because the prior use of these drugs were ineffective and there was a potential risk of producing autonomic or central nervous system effects if the dose was increased or parenteral administration was tried. The decision to use ECT instead of drugs was influenced by the latency of action of the drugs, the urgency of the clinical status and the well known potency of ECT as an anticytotic agent.

The important aspect of our case was that ECT proved to be a crucial measure in the management of the respiratory crisis. Early chest physiotherapy involving respiratory effort by the patient, along with other activities, is important in the management of acute pneumothorax for re-expansion of the lungs (Thomson et al, 1991). As our patient was in catatonic stupor his participation in chest physiotherapy was absent. After the patient recovered quickly with ECT, he was able to take part in respiratory exercises leading to complete resolution of pneumothorax and normal respiratory function. This indirect beneficial effect of ECT on the medical illness through its effect on the psychiatric status is comparable to the reports.

With advancement in techniques and with proper guidelines available for application of ECT (APA, 1990) there needs to be no hesitation in its use in patients with serious physical illness, if the psychiatric status warrants its use. From both psychiatric and medical aspects, the use of ECT in such patients could prove life-saving.

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