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Electroconvulsive Therapy in a Rural Teaching General Hospital in India

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Summary: This paper analyses the pattern of use of and the response to electroconvulsive therapy (ECT) in an Indian rural teaching general hospital between 1977 and 1980. ECT was used in 503 cases (14.3 per cent of 3,517). Three-quarters of the patients to whom it was given were schizophrenic, one-fifth depressed and 6 per cent suffering from post-partum psychosis. Though the treatment gave the best results in depression it was also effective in many schizophrenics and post-partum psychotics. The commonest side effect was memory impairment. Following unmodified ECT severe confusion and excitement were frequent, while thrombophlebitis, bronchospasm, prolonged apnoea and peripheral circulatory collapse occurred only with the modified technique. The usefulness of ECT in developing countries like India is highlighted.

Ever since its discovery electroconvulsive therapy (ECT) has continued to occupy a central place in the armamentarium of psychiatrists. Despite abhorrence from some quarters, it is still being practised as one of the cheapest and safest, and yet one of the most effective, therapeutic techniques in the whole of medical science (Kalinowsky, 1975; Royal College of Psychiatrists, 1977; Slater and Roth, 1977; Shukla *et al*, 1979).

These statements are particularly true of developing countries like India where due to lack of adequate indoor treatment facilities, trained psychiatric personnel and funds (Neki, 1973) it is imperative that patients are treated quickly and their earning capacity restored. This is possible only with the help of ECT used in conjunction with psychopharmacological agents. It is therefore hardly surprising that in contrast to the developed countries, where ECT is used rather sparingly and almost exclusively in depression, in India it forms the mainstay of treatment for all the functional psychoses, particularly schizophrenia (Vahia *et al*, 1974). Further, due to shortage of anaesthetists, most psychiatric centres, even in teaching centres, have often to use the direct (unmodified) technique almost entirely given up in developed countries (ibid).

The present communication presents some experiences with direct and modified ECT over a period of four years in a rural teaching general hospital in India.

Material and Methods

All subjects who received ECT in the psychiatric clinic of M.L.B. Medical College, Jhansi, India during the four years 1977 to 1980 were included in the study. However, in the final analysis only those cases were considered who had received a number of treatments thought sufficient for the given condition, usually between six and twelve. As far as possible patients were given modified ECT using thiopentone, atropine and succinylcholine chloride, but during the first two years when anaesthetic facilities were scarce most of them in fact received unmodified ECT. The analysis includes both groups.

In every case a thorough physical examination and relevant laboratory investigations were carried out to exclude contra-indications to ECT. Less severely ill patients were given about 15 days' trial of psychopharmacological agents and only subjected to ECT if they failed to respond. However, those with suicidal ideas or negativism, those unmanageable with drugs alone and those in need of quick recovery for financial or other reasons were put on ECT from the beginning. In all cases psychopharmacological agents were given concurrently. ECT was administered through bitemporal electrodes twice or thrice a week, depending on the severity of the psychiatric condition and its progress. A record was kept of progress and of any side effects or complications encountered.

Results

Electroconvulsive therapy was used in 503 (14.3 per cent) out of a total of 3517 cases seen during the period under consideration. Of these 338 (67.2 per cent) had the requisite number of treatments and were included in the analysis.

The patients' ages ranged from 12 to 65 years. The commonest age group (38 per cent of the total) was between 21 and 30 years; 91 per cent were under forty. There were 182 male patients, 54 per cent of the total. Three-quarters of all the cases were diagnosed as schizophrenic, 19 per cent as suffering from depressive psychosis and six per cent from post-partum psychosis. One hundred and eighty-four patients (54 per cent) received modified ECT and the other 154 (46 per cent) the unmodified form.

ECT gave the best results in depression, where 72 per cent of cases recovered completely and 28 per cent had marked or moderate improvement. The next best response was seen in cases with post-partum psychosis where two-thirds recovered, a quarter improved markedly and the remainder improved moderately. Schizophrenics responded somewhat less favourably, about a quarter (27 per cent) recovering, a third (37 per cent) improving markedly and another third (34 per cent) improving moderately. Six schizophrenic patients (2.4 per cent) showed no response, but it must be borne in mind that these six had also shown an unsatisfactory response to pharmacological agents.

Side effects

The commonest side effect was memory impairment, occurring in nearly half of the cases treated with either technique. Thrombophlebitis at the injection site developed in 21 (11 per cent) of the cases given modified ECT. Some other relatively serious complications like bronchospasm (4 per cent), prolonged apnoea (3 per cent) and peripheral circulatory collapse (one per cent) occurred only with modified ECT. All these cases, fortunately, were saved. Severe post-ECT confusion and excitement occurred much more often with the unmodified treatment.

Discussion

Electroconvulsive therapy has recently become controversial through misrepresentation by the mass media under the unfortunate name of 'shock' treatment, and has been seen as punitive, noxious and old-fashioned, in total disregard of its merits (Frederiksen and D'elia, 1979; Weiner, 1979). However, despite a substantial decline in its popularity (Morrissey *et al*, 1979) it continues to be used in between three and five per cent of all psychiatric cases in the USA and Sweden (Aperia *et al*, 1976; American Psychiatric Association, 1978; Frederiksen and D'elia, 1979) and in 10 per cent of cases in Denmark (Heshe and Roder, 1976).

The pattern of use of ECT differs in different countries. The American Psychiatric Association survey in 1978 showed that the indications for it in the USA were in order of frequency severe depression, manic excitement and schizophrenia, and the Swedish pattern (references above) was similar.

While ECT is going out of vogue in the west, it continues to be important in the Indian setting. In 1974 Vahia *et al* in Bombay reported that over 20 per cent of their patients received it. Our own percentage in the present study is 14.3, and our pattern of use differs from the western one in that three-quarters of the cases treated with ECT have been schizophrenic and only one-fifth depressive. Although the response has been best in depression, other psychotic conditions —schizophrenia and post-partum psychosis—have shown substantial improvement, despite a previous failure to respond to drug therapy. Our observation lends support to the assertation of Slater and Roth (1977) that many schizophrenics fail to respond to drugs but make an excellent response when these are combined with ECT. It is thus clear that while ECT is the most effective form of treatment in depression it has no disadvantage, compared with other treatments, in non-depressive functional psychoses (Weiner, 1979).

On the positive side ECT promotes rapid recovery where it is effective, and it quickly restores the patient's earning capacity—a great advantage in a country like India, where his or her day to day earnings may be the only source of subsistence for a whole family (Vahia *et al*, 1974; Shukla *et al*, 1979). The therapy is inexpensive, simple and convenient, and our patients, by and large, prefer a short course of ECT to long-term regular medication with drugs which may be uncertain in their effect (Vahia *et al*, 1974).

Our observations concerning side effects underline the fact that where anaesthetic and resuscitative facilities are inadequate, direct ECT is safer than the modified form (see also Abramezuk and Rose, 1979; Shukla *et al*, 1979).

To conclude, ECT is a very useful and reasonably safe form of treatment in all functional psychoses, particularly in developing countries. Very strong evidence against it would be required before four decades of useful experience were to be thrown away for emotional reasons.

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