

Psychosurgery Controversy and enquiry

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Surgically induced lesions of the frontal lobes of the brain were widely promoted as a treatment for the severe forms of mental illness, mainly schizophrenia, in the 1930s. The event which promoted, although it did not initiate, this procedure was the publication by the Portuguese neurologist Egas Moniz (1936) of his experience of the treatment of 20 seriously ill mental patients by prefrontal leucotomy. The 1930s was a decade in which other extraordinary physical treatments for mental illness were introduced: malaria therapy, electroconvulsive therapy and insulin coma. In the decade prior to the introduction of chlorpromazine there was an increasing concern for mentally ill patients and it is interesting to speculate whether disturbance and violence in the international scene is somehow connected with this focus of attention; it was during the cataclysmic upheavals of the French Revolution that Philippe Pinel first advocated non-restraint. Of these physical treatments two have endured to the present day: ECT and psychosurgery. Both have been the subject of ill-informed public protest but many psychiatrists, concerned for the well-being of their seriously ill patients, have insisted that the treatments should be preserved. Despite this, there are many areas of the world where the treatments are not available, often because medical concern caved in under the pressure of protest from a vocal majority. I was informed during a visit to Germany that the Hitler era had much to do with the disappearance of the treatments, that public opinion was recoiling against the enforced sterilisation (and worse) programmes applied to the mentally ill and that psychosurgery and ECT were viewed in the same light of *Gewalttätigkeit*. In the UK, the USA and in those countries which took their lead from practice in these countries, this wholesale jettison of the treatments did not occur.

As regards psychosurgery the history of its rise, fall and then survival, has been described by Valenstein (1990). He pointed out that a large number of neurosurgical lesions were advocated but that little or no valid research was conducted to justify the making of lesions in one area of the brain rather than another area or whether particular symptoms were differentially affected by the site of the lesion. Valenstein provides a list of surgical operations (which he states is only a 'partial' list): innominate tractotomy, capsulotomy, baso-frontal

tractotomy, subcaudate tractotomy, limbic leucotomy (combined subcaudate and cingulate lesions), medial mesoloviolotomy (subrostral leucotomy involving the genu of the corpus callosum), bimedial prefrontal leucotomy, cingulotomy, cingulottractotomy and subrostral cingulotomy. In all cases the target was the interruption of limbic, fronto-limbic or fronto-limbic-diencephalic neuronal tracts. Considering that there was, in addition, a lack of stereotactic siting and probable additional neuronal destruction from uncontrolled bleeding the effects may in some cases, and unpredictably, have been more profound.

The advent of effective pharmacotherapy and the rise of socio-political views of the causation of mental illness led to a rapid decrease of the surgical approach to mental illness. Some psychiatrists (Rollin, personal communication) recalled the psychosurgical era with horror; advocacy that it should be banned was made. Polarisation of professional viewpoints arose: psychosurgery was portrayed as the 'murder of the soul' and those who continued to assert the value of the procedure dismissed opponents as cranks (Editorial, 1979). That psychosurgery 'survived' in Britain is no doubt due to the extremely influential teaching of William Sargant whose strong advocacy of physical treatments for mental illness also had a major contribution to the continuation of ECT.

Advocacy of psychosurgery for conditions unaffected by other treatment approaches became markedly restricted. Schizophrenia almost ceased to be an indication; the disorders that are still considered for the surgical approach are severe obsessional disorders and depressive states. The advent of stereotactic placement of surgical lesions provided a further quieting effect on public remonstrance, and the revised Mental Health Act in Britain did not seek to ban psychosurgery but did introduce stringent provision regarding information to patients and their consent to treatment. The procedures of the Commission appeared to some advocates of psychosurgery to be cumbersome and a quasi-legalistic interference with clinical decision; on the other hand, in this contentious arena the Act protects clinicians against accusation of malpractice. Continuation of psychosurgery in Britain was also helped by a centralisation of the procedure i.e. its conduct in a very few centres where experience has accumulated and where psychiatrists have confidence in tertiary

referral. The first of these is the metropolitan centre, the Geoffrey Knight Unit, which has continued a nationwide service and from where, from time to time, reports of the results of the treatment appear. The latest of these reports is published in this issue of the *British Journal of Psychiatry*. The Unit suffers the severe disadvantage of being frequently remote from the clinical services of the referring psychiatrist and its lack of facilities for the prolonged post-operative rehabilitation which may be (and in our experience is) the key to successful outcome. Despite these drawbacks, outcome results have been sufficiently good to maintain the enthusiasm of the staff for continuation of the treatment. The somewhat cumbersome surgical procedure involving the placement of a large lesion by radioactive destruction perhaps ensures that neurosurgeons in other centres are not persuaded by psychiatric advocates to seek training and transfer the technique to regional centres.

Psychosurgery outcome reports

It has frequently been pointed out that the assessments of the effects of this 'last ditch' intervention are all inadequate (Valenstein, 1980). Calls have been made for supposed blind trials, a procedure which is clearly inappropriate to an intervention which requires fully informed consent from seriously ill patients who are being offered the best hope of recovery from their torments. Outcome reports do not, generally, comment upon adverse effects and generally conclude that the considerable relief of suffering justifies any adverse effect.

Although psychosurgery is condemned for its 'unscientific' approach to mental illness such accusations may be, and are, justly made against the major psychological therapies. For instance I failed in my attempt to find a clear conclusion of the effect of cognitive treatment of severe obsessional disorder 'uncontaminated' by other treatments (medication) and subject to independent assessment at an adequate period following treatment intervention (Snaith, 1991). By contrast psychosurgery effects have been independently assessed in numerous reports, the latest of which (Hay *et al*, 1993) indicates a definite beneficial role in severe obsessional disorder. That report was useful, as was another study (Hussain *et al*, 1988) for its comparison of the effects of different surgical lesions.

However, reports of outcome continue to suffer (as does the one published here) from deficiencies which may indeed lend strength to the criticism of opponents and the bewilderment of those who are seeking to establish the role of psychosurgery in the mid-1990s.

Conclusions

The advent of new forms of psychological treatment and the multiplication of pharmacological treatments has, no doubt, had beneficial effects. There is, however, a residue of very ill patients whom psychiatrists and their co-workers remain unable to help. Much is written of the ethics of medical practice, of psychiatric intervention in particular, but to walk away from such severe suffering with a resigned shrug when evidence for effective relief has sufficiently accumulated is surely also unethical, if not professional, malpractice.

When we were establishing a Regional Psychosurgery Service we prepared our ground by a survey of psychiatric opinion (Snaith *et al*, 1984) and were in fact somewhat surprised by the extent of positive support for the retention of a psychosurgical facility; retention was advocated even by those psychiatrists who, by reason of their specialisation (including psychotherapy and child psychiatry) replied that they did not personally expect ever to make such a referral. There was also positive support for the establishment of regional facilities. We were interested to determine whether experience (or lack of experience) of the respondent would have influence. We had supposed that elderly psychiatrists, who had passed through the era of uncritical referral in pre-stereotactic times would be more condemnatory and that the younger consultants, still under the influence of the persuasive socio-political views of the nature of mental illness, would positively exclude psychosurgery. No such factor appeared to have a major influence on attitude.

The degree of observation provided by the British Mental Health Commission seems a useful safeguard but more extensive quasi-judicial procedures may lead to the loss of therapeutic procedure (Hay & Sachdev, 1992). Certainly, a more detailed enquiry of the effect of psychosurgery is called for and a positive duty of the treatment regulating committees of those countries where sufficient operations are still conducted, to inform the psychiatric profession.

The Australian study of Hay *et al* (1993) quoted above, is certainly a move toward better evaluation.

Since psychosurgery is still practised in Britain (probably over 20 operations a year) the Royal College of Psychiatrists should take up the responsibility for this investigation. Requirements for the assessment must include:

- (a) independent assessment by those who have had no role in decision-making and who have different professional backgrounds; audiotaping of interviews for further independent evaluation;

- (b) clear pre- and post-information on psychometric tests assessing both aspects of symptom severity and cognitive function;
- (c) an adequate period following the intervention (at least one year);
- (d) information from brain imagery before and after surgery;
- (e) a *complete* sample of patients, not just those who are willing and able to travel to take part in the survey. This requires home-based evaluation.

Rappaport (1992) concludes a call for outcome study with the view that there is no need to invoke "social agendas such as mind control, more in the realm of science fiction than medicine" and that psychosurgery "may be evaluated in the same manner as any other medical treatment". I would concur to a point but the situation is rather more complicated. In so far as symptoms of psychiatric disorder reflect the state of mind, then psychosurgery, like psychotherapy, is a method of mind control; after all, a recent text of psychopathology received the title *Symptoms in the*

Mind (Sims, 1988). Facilities for psychosurgery must continue to be available.

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