Design and assessment of psychosurgical studies

The following amusing episode from the early days of American medical practice was recently related by Lee Birk (1973):

On a panoramic hilltop one rainy afternoon in colonial America, about 200 years ago, perhaps during one of the dread yellow fever epidemics, Benjamin Rush, signer of the Declaration of Independence, framer of the Constitution and “Father of American Psychiatry”, is said to have emerged inexplicably from his horse-drawn carriage, suddenly overcome with a sense of his healing mission and his therapeutic method; in this mood with a burst of zealotry, he is said to have shaken his cane at the city below while uttering the words: “Bleed and purge all the city!” This done, he got back in the carriage and drove on to see his next case.

While purging and bleeding have long since passed from the medical scene, there is a lesson of continuing significance to be gleaned from this anecdote. As Birk indicated

It can be all too easy to become fervently fascinated with a treatment method, caught up in a kind of furor therapeuticus the practice and technology of which leaves little time and energy either for careful empirical evaluation of therapeutic efficacy, or for the analysis of underlying psychopathology. (p.1, italics in original)
Certainly, psychosurgeons have been major offenders in this regard. Rarely have reports of psychosurgical treatment conformed to even the most modest criteria necessary for a proper clinical analysis of efficacy. Further, Birk's "Furor therapeuticus" was not just confined to the early halcyon days of psychosurgery; it persists obstinately as a feature of modern practice. Throughout, untempered enthusiasm and unwavering conviction have generally substituted for careful evaluation; they are clearly, however, poor substitutes.

It should be conceded, nevertheless, that much of the opposition to psychosurgery embodies similar characteristics. Here again we frequently witness substantial departures from objectivity. However, the onus of proof, we insist, invariably lies with the innovators of a new therapy. It is they who must muster unequivocal and unambiguous evidence of validity and efficacy. Earnest testimonials, even from men of the highest integrity and intent, that reflect essentially subjective intuitions will continue to prove insufficient surety. Recognition of therapeutic efficacy can come only from evidence that satisfies the most rigorous conditions of scientific method, where the power of experimental design and control and the objectivity and thoroughness of the assessment procedures leave no room for doubt.

In the present chapter, then, we shall look closely at the experimental design and assessment procedures used in psychosurgical studies. The pervading issue is whether the methodology is sufficiently rigorous to permit clear and confident determination of efficacy. Our analysis of psychosurgical data in Chapter 3 largely ignored methodological considerations; data were presented and described with little reference to their scientific status. In the present chapter, we shall closely examine their scientific credentials. In Chapter 4 we did review the so-called "controlled" studies in a more critical fashion, pointing out some of the methodological inadequacies. At the end of the present chapter, we shall briefly return to these studies. The bulk of this chapter, then, will be taken up with a detailed comparison of the methodological characteristics and shortcomings of the studies sampled in Chapter 3. As in previous chapters, the relevant information for consideration will be displayed in tabular form.

The present analysis can be conveniently divided into three sections, the first concerned with experimental design, the second with matters of clinical and behavioural assessment and the third with the scientific value and status of different types of study. The first section, that of design, can be further subdivided into two aspects. Two sets of tables (three tables per set, one for each "period" or "wave" of psychosurgery) deal with the first of these aspects: the patient populations subjected to psychosurgery (Tables 7.1-7.6). Three tables (7.7, 7.8 and 7.9) are devoted to the second aspect of the design, i.e. the operations themselves. The second section focuses on assessment. This section contains tables that deal with the various assessment procedures used in psychosurgical studies (Tables 7.10-7.18) and also examines the treatment