Stereotact Funct Neurosurg 2014;92:412
DOI: 10.1159/000366005

Psychosurgery for Schizophrenia

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We read with great interest the publication of Liu et al. [1] reporting results from the largest published series of schizophrenia patients treated with MRI-guided bilateral anterior capsulotomy with 2 years of follow-up. Let us specify that a series of 87 schizophrenic patients operated, notably, by capsulotomy – but associated with a cingulotomy, amygdalotomy or thermocoagulation of the nucleus accumbens – was published in Chinese in 2011 by Cai et al. [2].

We are surprised to note that of the 100 schizophrenic patients operated in this series, 94% presented with aggressive behaviour, whereas this behaviour is usually only found in 1 out of every 5 schizophrenic patients [3]. This important selection bias raises the following question: Was this procedure proposed more readily to patients who presented a menace to their entourage? This point seems even more important to clear up since only 58 of the 100 patients were capable of giving independent consent to the intervention. In our eyes, this important question raises the potential problem of conflict of interest. We must be even more attentive to this problem as the authors elected to perform a lesional intervention – irreversible – instead of deep brain stimulation, with its adjustable and reversible effects.

Since the end of the 1930s, schizophrenia has been the mental illness in which the results of psychosurgery have been the most studied. Of the 116 patients operated by Leksell for anterior capsulotomy, results were the most deceiving in schizophrenia patients, with only 14% improving (compared to 50% in obsessive-compulsive disorders and 48% in depression) [4]. It is probably for

this reason that, following this, cingulotomy, limbic leucotomy and amygdalotomy were mainly proposed for this indication [5] instead of anterior capsulotomy. In 2010, Leiphart and Valone [6] performed a review of the literature, identifying 172 publications for schizophrenia compared to 147 for depression and 33 for obsessive-compulsive disorders. Assessment of these publications shows that it is for schizophrenia – and addiction disorder – that results are the most deceiving, all lesional techniques confounded. For schizophrenic patients, the best results are obtained with cingulotomy. To this effect, Leiphart and Valone comment that the 'best reported outcome for cingulotomy was 1.6, a poor outcome in comparison with the other disorders'. With 74%, the results of Liu et al. [1] are thus very different from those reported in the literature.

Given the difficult task of performing a randomised study with a control group subjected to a sham operation, it would have been more optimal if the authors had used a control group to evaluate the efficacy of this surgery.

The progress made in functional neurosurgery and the emergence of deep brain stimulation offer an important hope for cure for patients suffering from medically refractory psychiatric illness. We must remain very vigilant of the methodology of these studies so that psychosurgery does not, once again, become a matter of controversy in such a way that it compromises its development.

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