J. D. Pickard, N. Akalan, C. Di Rocco, V. V. Dolenc, J. Lobo Antunes, J. J. A. Mooij, J. Schramm, M. Sindou (eds)
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The 34th volume of the historical series “Advances and Technical Standards in Neurosurgery” follows previous editions in the common objective of providing an up to date on relevant as well as on selected actuality topics of our specialty.

The extensive efforts devoted to the basic research for malignant gliomas inspire the first Chapter of the “Advances” part of the book. This paper starts making a complete overview of the resistance mechanisms of malignant glioma cells to radiotherapy and chemotherapy and of both apoptotic and non-apoptotic mechanisms of cell death, with particular reference to autophagy, a recent research field to which the same authors, coming from the Free University of Brussels, have contributed in recent years. All systemic and local treatment attempts are then reviewed and a resume of the almost 400s of clinical trials present in the literature at the time of the chapter compilation is given, from growth factor receptors inhibition up to new targeting studies.

Recent applications of deep brain stimulation (DBS) in psychiatric disorders are the focus of the second Chapter; the rationale of this treatment is discussed, on the grounds of both principles of deep brain stimulation and neurobiology of psychiatric disorders. The actual targets and preliminary results of the literature are detailed, and a trace towards mandatory standards of application of DBS in psychiatry is attempted.

The “Standards” part of the book includes four Chapters. In the first Chapter, Patel and Kirkpatrick lead a guidance to

the single surgical steps for performing a high-flow extracranial to intracranial vascular bypass, comparing outcomes, complications and type of graft selection based on a well-summarized review of the literature.

Surgical treatment of patients with Chiari type I malformation is dealt with in the second Chapter. The authors report their experience with an extremely lateral-extended foramen magnum opening and duraplasty, a technique they adopted in adult patients both with and without associated syringomyelia. An interesting set of tables allow the comparison with the other techniques published in the pertinent literature in terms of clinical, neuroradiological results and complications. Vonck et al. resume the results of randomized and prospective clinical trials that vagal nerve stimulation have for the treatment of epilepsy in a 15-year survey. The authors divided side effects and effects of long-term stimulation by specific patients groups.

As usual for this excellent series of books, a chapter is dedicated to surgical anatomy and specifically to the anatomy and the surgical approaches to the lateral ventricles which are the subject of the final chapter of the volume.

An analytical description is made of the cavities, walls, arteries, veins and relationships of the single components of the lateral ventricles with the surrounding deep brain structures, the second part detailing the surgical approaches through the cortex and through the corpus callosum. An extensive series of drawings and neuroradiological images helps the reader go through the paper which appears particularly useful for neurosurgeons in training. In conclusion, the well-thought selection of the arguments and the quality of the contributions make the 34th edition of *Advances and Technical Standards in Neurosurgery* a review collection worthwhile to read and add to institutional as well as personal scientific libraries.

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