

## Contents

### Section I. Stereotactic Imaging, Tumours and Haematomas

|                                                                                                                                                                                                                                                                            |    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| Lipinski, H. G., Struppler, A., Birk, P.: Transformation Modes in Computerized Human Thalamic Brain Mapping . . . . .                                                                                                                                                      | 3  |
| Giunta, F., Marini, G., Bertossi, M.: Stereotactic Computer Graphic System with Brain Maps . . . .                                                                                                                                                                         | 7  |
| Giorgi, C., Cerchiari, U., Broggi, G., Contardi, N., Birk, P., Struppler, A.: An Intraoperative Interactive Method to Monitor Stereotactic Functional Procedures . . . . .                                                                                                 | 10 |
| Giorgi, C., Cerchiari, U., Broggi, G., Passerini, A.: 3-D Reconstruction of Cerebral Angiography in Stereotactic Neurosurgery . . . . .                                                                                                                                    | 13 |
| Vandermeulen, D., Suetens, P., Gybels, J., Oosterlinck, A.: Angiographic Localizer Ring for the BRW Stereotactic System . . . . .                                                                                                                                          | 15 |
| Uematsu, S., Rosenbaum, A. E., Erozan, Y. S., Gupta, P. K., Moses, H., Nauta, H. J., Rigsby, W. H., Wang, A., Weiderman, L., Kumar, A. J.: Intraoperative CT Monitoring During Stereotactic Brain Surgery . . . . .                                                        | 18 |
| Uematsu, S., Rosenbaum, A. E., Delong, M. R., Citrin, Ch. M., Jankel, W. R., Kumar, A. J., McArthur, J. C., Nauta, H. J., Sherman, J., Narabayashi, H.: Magnetic Resonance Planned Thalamotomy Followed by X-Ray/CT-guided Thalamotomy . . . . .                           | 21 |
| Bradford, R., Thomas, D. G. T., Bydder, G. M.: MRI-directed Stereotactic Biopsy of Cerebral Lesions                                                                                                                                                                        | 25 |
| Scerrati, M., Rossi, G. F., Roselli, R.: The Spatial and Morphological Assessment of Cerebral Neuroectodermal Tumours Through Stereotactic Biopsy . . . . .                                                                                                                | 28 |
| Hood, T. W., Shapiro, B., Taren, J. A.: Treatment of Cystic Astrocytomas with Intracavitary Phosphorus 32 . . . . .                                                                                                                                                        | 34 |
| Colombo, F., Benedetti, A., Zanardo, A., Pozza, F., Avanzo, R., Chierago, G., Marchetti, C.: New Technique for Three-Dimensional Linear Accelerator Radiosurgery . . . . .                                                                                                 | 38 |
| Amano, K., Kawamura, H., Tanikawa, T., Kawabatake, H., Notoni, M., Iseki, H., Shiwaku, T., Nagao, T., Iwata, Y., Taira, T., Umezawa, Y., Shimizu, T., Kitamura, K.: Surgical Treatment of Hypertensive Intracerebral Haematoma by CT-guided Stereotactic Surgery . . . . . | 41 |
| Yagüe, L., Garcia-March, G., Paniagua, C., Sánchez-Ledesma, M. J., Diaz, P., Ludeña, D., Maillo, A., Broseta, J.: Stereotactic Evacuation and Local Administration in Intracerebral Haematomas. A Comparative Study . . . . .                                              | 45 |

### Section II. Movement Disorder and Spasticity

#### A. Movement Disorder

|                                                                                                                                                                                                                                 |    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| Rack, P. M. H.: Stretch Reflexes and Parkinsonian Tremor . . . . .                                                                                                                                                              | 51 |
| Lenz, F. A., Schnider, S., Tasker, R. R., Kwong, R., Kwan, H., Dostrovsky, J. O., Murphy, J. T.: The Role of Feedback in the Tremor Frequency Activity of Tremor Cells in the Ventral Nuclear Group of Human Thalamus . . . . . | 54 |
| Birk, P., Struppler, A., Lipinski, H. G., Giorgi, C., Cerchiari, U., Riescher, H.: Computer-assisted Analysis of Functional Anatomy of Human Ventrolateral Thalamus . . . . .                                                   | 57 |
| Hitchcock, E. R., Flint, G. A., Gutowski, N. J.: Thalamotomy for Movement Disorders: a Critical Appraisal . . . . .                                                                                                             | 61 |

|                                                                                                                                                  |    |
|--------------------------------------------------------------------------------------------------------------------------------------------------|----|
| Frank, F., Fabrizio, A. P., Frank-Ricci, R., Gaist, G.: Stereotaxis and Abnormal Movements . . . . .                                             | 66 |
| Van Manen, J., Speelman, J. D.: Thalamotomy for Tremor After a Vascular Brain Stem Lesion . . . . .                                              | 70 |
| Broggi, G., Giorgi, C., Servello, D.: Stereotactic Neurosurgery in the Treatment of Tremor . . . . .                                             | 73 |
| Shann, R. T., Lye, R. H., Rogers, G. W.: Severity in Movement Disorders: a Quantitative Approach . . . . .                                       | 77 |
| Price, S., Fox, J. E., Hitchcock, E. R.: EMG Investigations in Patients with Torticollis . . . . .                                               | 80 |
| Speelman, J. D., van Manen, J., Jacz, K., van Beusekom, G. T.: The Foerster-Dandy Operation for the Treatment of Spasmodic Torticollis . . . . . | 85 |

### B. Spasticity

|                                                                                                                                                                                         |     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| Delwaide, P. J.: Spasticity: from Pathophysiology to Therapy . . . . .                                                                                                                  | 91  |
| Kanpolat, Y., Çağlar, C., Akiş, E., Ertürk, A., Uluğ, H.: Percutaneous Selective RF Neurotomy in Spasticity . . . . .                                                                   | 96  |
| Sindou, M., Mifsud, J. J., Rosati, Ch., Boisson, D.: Microsurgical Selective Posterior Rhizotomy in the Dorsal Root Entry Zone for Treatment of Limb Spasticity . . . . .               | 99  |
| Cioni, B., Meglio, M.: Spinal Cord Stimulation Improves Motor Performances in Hemiplegics: Clinical and Neurophysiological Study . . . . .                                              | 103 |
| Broseta, J., Garcia-March, G., Sánchez-Ledesma, M. J., Barberá, J., González-Darder, J.: High-Frequency Cervical Spinal Cord Stimulation in Spasticity and Motor Disorders . . . . .    | 106 |
| Koulousakis, A., Buchhaas, U., Nittner, K.: Application of SCS for Movement Disorders and Spasticity . . . . .                                                                          | 112 |
| Davis, R., Eckhouse, R., Patrick, J. F., Delehanty, A.: Computer-controlled 22-Channel Stimulator for Limb Movement . . . . .                                                           | 117 |
| Siegfried, J., Rea, G. L.: Intrathecal Application of Baclofen in the Treatment of Spasticity . . . . .                                                                                 | 121 |
| Schvarcz, J. R.: Stimulation of the Dentate Nuclei for Spasticity . . . . .                                                                                                             | 124 |
| Davis, R., Schulman, J., Delehanty, A.: Cerebellar Stimulation for Cerebral Palsy: Double Blind Study . . . . .                                                                         | 126 |
| Galanda, M., Zoltán, O.: Motor and Psychological Responses to Deep Cerebellar Stimulation in Cerebral Palsy (Correlation with Organization of Cerebellum Into Zones) . . . . .          | 129 |
| Salar, G., Iob, I., Ori, C., Fiore, D., Mattana, M., Battaggia, C.: The Treatment of Hemifacial Spasm with Percutaneous Radiofrequency. Thermocoagulation of the Facial Nerve . . . . . | 132 |

### Section III. Pain and Miscellaneous

|                                                                                                                                                                                                                                                                                  |     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| Piquer, J., Joanes, V., Roldan, P., Barcia-Salorio, J. L., Masbout, G.: Long-Term Results of Percutaneous Gasserian Ganglion Lesions . . . . .                                                                                                                                   | 139 |
| Meglio, M., Cioni, B., d'Annunzio, V.: Percutaneous Microcompression of the Gasserian Ganglion: Personal Experience . . . . .                                                                                                                                                    | 142 |
| Broggi, G., Servello, D., Franzini, A., Giorgi, C.: Electrical Stimulation of the Gasserian Ganglion for Facial Pain: Preliminary Results . . . . .                                                                                                                              | 144 |
| Plangger, C. A., Fischer, J., Grunert, V., Mohsenipour, I.: Tractotomy and Partial Vertical Nucleotomy . . . . .                                                                                                                                                                 | 147 |
| Sólyom, A., Tóth, Sz., Holczinger, I., Vajda, J., Tóth, Z.: Investigation of Trigeminal SEP with Scalp and Deep Electrodes . . . . .                                                                                                                                             | 151 |
| Garcia-March, G., Sánchez-Ledesma, M. J., Diaz, P., Yagüe, L., Anaya, J., Gonçalves, J., Broseta, J.: Dorsal Root Entry Zone Lesion versus Spinal Cord Stimulation in the Management of Pain from Brachial Plexus Avulsion . . . . .                                             | 155 |
| Barcia-Salorio, J. L., Roldan, P., Lopez-Gomez, L.: Radiosurgery of Central Pain . . . . .                                                                                                                                                                                       | 159 |
| Weigel, K., Munding, F., Chrubasik, J.: Continuous Intraventricular Morphine- or Peptide-Infusion for Intractable Cancer Pain . . . . .                                                                                                                                          | 163 |
| Roldan, P., Joanes, V., Santamaria, J., Barcia-Salorio, J. L., Casans, I., Carbonell, C., Tejerina, E.: Hemodynamic Changes from Spinal Cord Stimulation for Vascular Pain . . . . .                                                                                             | 166 |
| Taira, T., Amano, K., Kawamura H., Tanikawa, T., Kawabatake, H., Notani, M., Iseki, H., Shiwaku, T., Nagao, T., Iwata, Y., Umezawa, Y., Shimizu, T., Kitamura, K.: Short Latency Somatosensory-Evoked Potentials—Direct Recording from the Human Midbrain and Thalamus . . . . . | 170 |

|                                                                                                                                                                                                     |     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| Shieff, C., Vieira, J. F. S., Nashold, B. S., Jr., Ovelmen-Levitt, J.: Electrical Impedance Recording for Localization in Functional Neurosurgery of the Spinal Cord and Lower Brain Stem . . . . . | 174 |
| Fasano, V. A., Peirone, S. M., Zeme, S., Filippi, M., Broggi, G., de Mattei, M., Sguazzi, A.: Cryoanalgesia. Ultrastructural Study on Cryolytic Lesion of Sciatic Nerve in Rat and Rabbit . . . . . | 177 |
| Nyström, S. H. M., Eskelinen, P. H., Heikkinen, E. R., Weckström, M. T.: Shape-Factor Intensity Analyses of Brain Slices in Surgery for Epilepsy . . . . .                                          | 181 |
| Scerrati, M., Pola, P., Fiorentino, A., Fiorentino, M.: Accessory to the Talairach's Apparatus for Orthogonal Approaches. Technical Note . . . . .                                                  | 186 |