Some Pitfalls and Problems in Neurosurgery

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Contents

Paolo Emilio Maspes (1906-1989) VII
Preface XI
Landolt, A.M. (Zurich): Transsphenoidal Surgery of Pituitary Tumors: Its Pitfalls and Complications 1
Vajda, J.; Rásztor, E. (Budapest): Surgical Complications following Frontal and Temporal Approaches to Basal Tumours 31
Peacock, W.J. (Los Angeles, Calif.): Prevention and Management of Cerebrospinal Fluid Shunt Complications 114
Stein, B.M. (New York, N.Y.): Surgery of Intramedullary Lesions and Escapable Pitfalls 131
Griffith, H.B. (Bristol): Pitfalls in the Management of Lumbar Disc Prolapse 154
Villiers, J.C. de (Cape Town): Pitfalls and Problems in the Diagnosis of Cerebral Death 181

Subject Index 204
Paolo Emilio Maspes (1906-1989)

`Intorno a una grandezza solitaria non volano gli uccelli, nè quei vaghi gli fanno, accanto il nido. . .’
(from Ulisse — Umberto Saba 1948)

Paolo Emilio Maspes was born on January 30, 1906, in Turin. He graduated with first class honors from the School of Medicine at the University of Turin in 1929. For his superior academic qualities he was awarded the `Pacchiotti Prize' by his university. He began his internship at the Institute of Human Anatomy under Professor G. Levi, and it was here that his qualities as a patient and attentive researcher became evident. Upon receiving his MD degree, he began to attend the Clinic of Neuropsychiatric Diseases at the University of Turin, directed by Professor E. Lugaro, and on February 2, 1930, was appointed to the position of Voluntary Assistant. Dr. Maspes already possessed a strong cultural basis together with sound clinical judgement. His research initiatives showed outstanding originality and vast technical knowledge.

In 1934, at the age of 28, Dr. Maspes obtained his PhD in neurology, and in 1938 he was appointed Assistant Professor in the Neuropsychiatric Clinic at the University of Turin. In the meantime, he did not abandon his ever growing interest in neurosurgery. In 1936 his intuition as to the importance neurosurgery was to have for the neurological sciences led him to devote his considerable energies to the study of surgical pathology at the University of Turin under Professor Stropeni. Here he soon began performing the first neurosurgical operations.

To benefit from the experience of leading neurosurgeons of his time, he left Italy for Sweden and Germany. He spent a number of months studying neurosurgical techniques with Professor Olivecrona in Stockholm and Professor Tönnis in Berlin. This period, in which he visited leading European neurosurgical centers, sharpened his preparation in this discipline and, in addition to his previous experience, Dr. Maspes acquired the skills and proficiency that he was now to use in treating neurosurgical patients in both the Neuropsychiatric Clinic and the Institute of Surgical Pathology at the University of Turin. In 1951 he founded the section of neurosurgery within the Neuropsychiatric
Clinic. This was the first such section in Italy, and a fertile field for neurological studies. The same year, Dr. Maspes was appointed Associate Professor in the Neuropsychiatric Clinic. In 1955 he became Director of the Clinic of Neuropsychiatry at the University of Cagliari, and in that same year created the first neurosurgical center in Sardinia, where he and his team were to perform over 1,500 neurosurgical operations. With these qualifications it is needless to add that when the first Chair of Neurosurgery was established in Italy at the University of Milan in 1958, Dr. Maspes became its director. The field of neurosurgery was in a fertile phase and was developing rapidly in Italy during these years. The fact that over 15,000 operations were performed from 1958 to 1976 in the neurosurgical clinic headed by Dr. Maspes gives some indication of the importance he placed on this discipline. The areas of neurosurgery he was particularly dedicated to included therapy of the occlusion of the carotid artery in the neck, physiopathology of cerebral blood flow, surgery for epilepsy and intracranial aneurysms, the use of hypothermia, stereotaxic surgery for Parkinson's disease, pedunculotomy in the treatment of childhood dyskinesia, surgery for pain by stereotaxic operations on the thalamus, surgery for pituitary adenomas and for hydrocephalus, and biochemistry of brain tumor metabolism.

Paolo Emilio Maspes (1906-1989) IX

He was made Professor Emeritus on November 1, 1981, and in that same year he suffered a cerebral ictus which made him aphasic and hemiparetic. After eight years of illness he died on January 21, 1989, just before reaching his 83rd birthday. His influence was notable, and he trained many young men to whom he was able to impart his fascination for this discipline. After establishing the first school of specialization in neurosurgery in Italy at the University of Milan, he prepared his pupils to later become professors of neurosurgery in Brescia, Ferrara, Milan, Pavia, Turin, and Varese. Other schools of specialization in neurosurgery were founded in Ferrara, Pavia, and Turin. Nine of his pupils became associate professors of neurosurgery, two of pediatric surgery, one of neurotraumatology and one of neuroradiology. Other pupils became directors of neurosurgical departments in Ancona, Bergamo, Cagliari, Lecco, Legnano, Milan, Novara, Palermo, Sondalo and Varese. At the Neurosurgical Clinic in Milan, centers for the study of therapy of pain and cerebral vasculopathy were established. During the same period the neurosurgical clinic of the University of Pavia founded three centers: the Enca Grossi-Paoletti Center for the Study and Treatment of Brain Tumors, the Center for the Study and Treatment of Brain Vasculopathies, and the Center for the Study and Treatment of Pain.
He was a founding member of the Italian Neurosurgical Society in 1948 and served as President for many years. He was Director of the Journal of Neurosurgical Sciences until his death and he was a member of the editorial board of Acta Neurochirurgica from 1960 to 1978. He was also a member of the Academy of Medicine of Turin and of the American Association of Neurological Surgeons and of the Congress of Neurological Surgery. Dr. Maspes' clinical and research activities are documented in his publications. His last work was a 10-volume series entitled Progress in Neurological Surgery, which he coedited with Professors H. Krayenbühl and W.H. Sweet.

He was a member of various scientific societies in different countries, bearing testimony to his well-known reputation in the world of neurosurgery. These include the French-Language Neurosurgical Society and the American Association of Neurological Surgeons.

The ten volumes of Progress in Neurological Surgery, with the collaboration of Charles Poletti (Boston) and Lewis Wright (Richmond, Va.) and myself, consisted of contributions from about 160 American, European, and Japanese neurosurgeons which covered the state of the art in diagnosis, clinical aspects and therapy of glial cerebral and spinal tumors, hypophyseal adenomas, neunomas of the acoustic nerve, and of chondromas and cordomas, surgery for aneurysms and pain therapy, and of cerebral tumors of pediatric neurosurgery.

During the two decades since its establishment, the Neurosurgical Clinic of the University of Milan headed by P.E. Maspes has flourished and has always played a leading role in the rapid development of neurological surgery in Italy. The achievements of his department in clinical practice as well as in basic research are now internationally recognized. It required his personality, hard work, superb clinical performance and organizational and administrative ability in order to achieve success. Maspes was an exceptionally skillful and determined neurosurgeon with keen clinical acumen. As a teacher, Maspes excelled in operating room demonstrations. He was always painstakingly and remarkably skillful. He was noted for his enthusiasm and his willingness to discuss all aspects of a case, his intense desire to know the facts of the case and to do his best for the patients.

One of his most important contributions was his understanding that neurosurgery should not be confined simply to surgical therapy of disorders of the nervous system, but that an attentive and capable neurosurgeon needed to enlarge his scientific preparation to include neurochemistry, neurophysiology, neuropharmacology, and neuropathology. To this end he
carefully and patiently prepared and directed his most qualified students
towards a particular area of neurosurgery, for example physiopathology of
subarachnoid hemorrhage and vasospasm, metabolism and multidisciplinary
therapy of malignant brain tumors, biology and therapy of pituitary
adenomas, surgery for epilepsy, etc. This was happening when most neurosurgeons
from the other schools in Italy believed that a reasonably good
technical ability was a sufficient qualification.
It can certainly be said that Dr. Maspes contributed a great deal to the
creation of modern qualified and well-rounded neurosurgery. It is in recognition
of my good fortune to have had Dr. Maspes as my mentor that I
conclude this tribute to one of Italy's most important neurosurgeons

Pavia, Italy, April 30, 1989

Pietro Paoletti, MD

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Preface

That complications may occur during or after any surgical procedure will
be admitted by even the most experienced surgeon. Although wound infections
and thromboembolism belong to this group, their incidence can vary
considerably. The danger of wound infection is higher in patients operated
on by inexperienced and/or slow surgeons because the duration of exposure
of the operative field to air is one of the factors which contribute to wound
infection. Another important factor is tissue damage. Extensive electrocoagulation
of a cranial flap — particularly the wound edge — to obtain haemostasis
may lead to a slower wound healing and thus facilitate bacterial invasion.
Other factors not directly attributable to surgical technique may add to
the problem. This group of complications is related to 'the general way in
which things are done' in a neurosurgical institution. They can be partially
eliminated by appropriate general measures. The incidence of deep vein
thrombosis with consecutive pulmonary embolism can, for example, be
diminished by appropriate positioning of the patient on the operating table,
using inflatable stockings in order to diminish venous stasis in the legs as well
as the use of post-operative low dose heparin. Early mobilisation, active and
passive movement of the legs already in the first post-operative hours, while
the patient is still in the intensive care unit, may be of value as well. Complete
elimination of this complication is, however, not possible as yet. Another group of `complications' results from incorrect interpretation of pre-operative diagnostic studies such as misjudgement of the size and extension of tumours. Underestimation, neglect or explaining away of preoperative laboratory and X-ray results, which do not fit into the surgeon's interpretation of the patient's situation when the correct weighting of such facts might have led to a correct understanding of the surgical situation, may be fatal. This group cannot be called complications but represents `pitfalls'.

Preface XII

Good teaching and the residents' increasing experience will help to avoid such pitfalls. The chapters of this book are aimed at presenting some of these complications and pitfalls which no young neurosurgeon could possibly have experienced. Indeed, we may never have the chance to gain such experience personally but may get new ideas on those which have come his way from this `book of evils'. These chapters have been written by individuals who have accumulated a wide experience in their particular fields of interest. They also had to gain their experience by observing patients suffering from such complications or unavoidable pitfalls. We hope, therefore, that the dissemination of this accumulated knowledge may help other neurosurgeons to avoid the potential errors described and that this will reduce suffering of future patients.

Alex M. Landolt
Series Editor