Current Concepts in Cervical Spine Surgery

Editorial Comment

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Cervical spine surgery has greatly matured over the last few decades, evolving in terms of surgical technique, equipment, and instrumentation. This surgery typically represents a field of shared competence between orthopaedic surgeons and neurosurgeons. We had the opportunity to invite surgeons from different countries to demonstrate current ways to address issues related to surgery at the cervical spine.

This Symposium explores current approaches to various problems in the cervical spine: degenerative cervical spine disease, cervical spine metastasis, cervical spine fractures and spinal cord injury, and inflammatory diseases affecting the axial cervical spine. We are pleased the Symposium explores some “cutting edge” topics such as the recent advances in percutaneous vertebroplasty for cervical spine tumors and the comparison between laminoplasty and laminectomy and instrumented fusion for cervical stenosis.

We also intend to emphasize the newer SLIC classification system for cervical spine fractures developed by the Spine Trauma Study Group. The goal is standardization of management of the cervical spine by suggesting surgical indications based on patient scores. European and American surgeons tend to have different approaches to standardization in surgery. In particular, European surgeons tend not to trust scoring systems to pose surgical indications, whereas Americans usually follow guidelines throughout the surgical decision-making process. Another

Fig. 1 Vincenzo Denaro, MD, Full Professor, Dean, is shown.

Fig. 2 Alberto Di Martino, MD, PhD, is shown.

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focus is incidence and management of complications in cervical spine surgery, beginning with an epidemiological study on surgical risk and immediate postoperative outcomes in anterior or posterior procedures at the cervical spine. Other papers explore the role of defined risk factors (such as smoking) in terms of fusion rates, after which studies on complications and outcomes associated to several surgical procedures are presented. We also report the first results of a clinical case series on the use of a new low-profile instrumentation aimed at reducing the bulk effect and dysphagia in anterior instrumented fusion. The issue of cervical spine arthroplasty has been discussed in terms of risk factors (sagittal alignment) and spinal biomechanics of segmental motion sparing. Finally, the proposed systematic review on spinal cord injury represents a useful tool for updating on the most recent advances in this special field.

We believe the content of this Symposium will be interesting and useful to any surgeon dedicated to the treatment of cervical spine diseases. The considerable interest by the scientific community in this area is confirmed by the number of congresses and meetings on these issues.

We would like to personally thank all the contributing Symposium authors for their excellent research and the reviewers who critically reviewed all the manuscripts and upheld strict scientific rigor. We wish to dedicate this Symposium to two masters in the field of cervical spine surgery: Professor Mario Boni from Pavia for his work in the pathophysiology and surgery of the degenerative cervical spine and Professor Raymond Roy-Camille from Paris for his contributions to the treatment of the unstable cervical spine and the introduction of screw-based systems for posterior spinal stabilization in clinical practice.