

News and Perspectives in Vertebrology Symposium Zagreb, October 19, 2010

Diseases and disturbances of the spine are the most common musculoskeletal entities as causes of patients visiting physician offices. These entities are of high importance not only from the viewpoint of individual patients but also for posing a major socio-medical and eventually economic burden for the society as a whole because of their high direct and indirect cost.

A scientific symposium dedicated to spinal diseases and states has been traditionally organized on the occasion of the World Spine Day (October 16), proclaimed by the World Health Organization in the scope of the Bone and Joint Decade (2000-2010). In the last six years, the Symposium has been organized by the Croatian Society of Vertebrology in collaboration with University Department of Rheumatology, Physical Medicine and Rehabilitation and University Department of Neurosurgery, Sestre milosrdnice University Hospital from Zagreb. The symposia held to date, which were met with powerful response in the professional circles, had presented a variety of vertebrology issues from the aspects of etiology, diagnosis, treatment and rehabilitation. This year's symposium entitled News and Perspectives in Vertebrology, held in the Sestre milosrdnice University Hospital Multimedia Hall, gathered more than twenty lecturers, from basic scientists to clinicians, who presented 15 relevant topics characterized by major advances in recent years. Like previous years, the Symposium was chaired by Prof. Simeon Grazio, MD, PhD, head of University Department of Rheumatology, Physical Medicine and Rehabilitation, Sestre milosrdnice University Hospital, and Assist. Prof. Damir Kovač, MD, PhD, neurosurgeon from University Department of Neurosurgery, Sestre milosrdnice University Hospital, and chairman of the Croatian Society of Vertebrology. About 150 participants of various specialties (physiatrists, neurosurgeons, surgeons, neurologists, orthopedists, anesthesiologists, family medicine physicians, and others) from all over Croatia attended the Symposium.

The keynote speech by Assist. Prof. Velimir Lupter, MD, PhD, who addressed the audience on behalf of Prof. Krešimir Rotim, MD, PhD, head of Ses-

tre milosrdnice University Hospital, then the speech by Academician Marko Pečina, coordinator of the National Board on the Bone and Joint Decade, and welcome address by the Symposium Chairman, were followed by a very intriguing introductory lecture by Prof. Slobodan Vukičević, MD, PhD, on novelties in the intervertebral disk and cartilage pathophysiology. After recalling the complexity the articular cartilage structure, Prof. Vukičević introduced the audience in the numerous ongoing studies aimed at achieving the best possible regeneration of the intervertebral disk and cartilage defects. One of the main researchers' goals is to prevent intervertebral disk degeneration by early use of growth factors and metabolic status shift from catabolic to anabolic one (e.g., by use of cytokines with anabolic action, such as IGF-1, BMP-7 or BMP-13).

Assist. Prof. Vanja Bašić-Kes, MD, PhD (with Academician Vida Demarin as a coauthor) from University Department of Neurology, Sestre milosrdnice University Hospital, held a lecture on the pathophysiology of pain in diseases and painful conditions of the spine, and pointed to degenerative changes of the spine, changes of the spine caused by trauma, inflammation, tumors, congenital and developmental anomalies as the most common causes of back pain, emphasizing specific characteristics of each of the causes of pain. Considerable advances have been made in understanding the mechanisms of pain in different painful conditions of the spine, which has greatly contributed to target therapeutic actions for pain relief, which is a precondition for successful functional recovery.

Talking about new radio-imaging techniques of the spine, Head Doctor Igor Borić, MD, MS, from University Department of Diagnostic and Interventional Radiology, Sestre milosrdnice University Hospital, emphasized magnetic resonance (MR) for offering numerous possibilities in the spine diagnosis by use of usual imaging techniques. Advances are mainly due to the new techniques, primarily functional MR, i.e. diffusion weighted imaging (DWI), diffusion tensor imaging (DTI), perfusion imaging, and MR spectroscopy, which can visualize tissue function in addition to its morphology, in particular in the area of ischemia, tumor or inflammation, whereas quantitative MR is superior in osseous structure imaging

and MR technique in interventional radiology of the spine.

In his lecture on current pharmacological noninvasive management of back pain and neck pain, Prof. Simeon Grazio, MD, PhD, from University Department of Rheumatology, Physical Medicine and Rehabilitation, Sestre milosrdnice University Hospital, presented results of the studies investigating the efficacy and tolerability of new drugs such as the new opioid analgesic tapentadol, muscle relaxants (e.g., carisoprodol and eperisone chlorohydrate), antidepressants duloxetine and venlafaxine, antiepileptics in dominantly neuropathic pain component gabapentin and pregabalin, palmitoilethanolamide (PEA), etc. Yet, paracetamol and nonsteroidal antirheumatics (NSAR) remain first-choice drugs for most patients, although their efficacy has not been demonstrated or is relatively modest.

In his lecture on current kinesitherapeutic approaches to back pain and neck pain, Tomislav Nemčić, MD, from University Department of Rheumatology, Physical Medicine and Rehabilitation, Sestre milosrdnice University Hospital emphasized the role of medical gymnastics in pain relief as a dominant discomfort as well as in achieving the ultimate and most important goal, i.e. function recovery. Although there is no consensus on the most efficient type of exercise, kinesitherapy has been demonstrated to be most efficient and remains a cornerstone of conservative treatment of patients with back pain and neck pain; it is especially useful in prevention and in chronic stages of the disease. On presenting a part of the lecture by Frane Grubišić, MD, MS, from the same University Department, Dr Nemčić pointed to the lack of agreement, based on recent literature data, on the efficacy of various passive physical-therapeutic procedures, which is the reason why there are no widely accepted and clear recommendations on their use in patients with back pain and neck pain.

The second part of the Symposium started with a lecture by Assist. Prof. Miroslav Jelić, MD, PhD, from University Department of Rehabilitation and Orthopedic Aids, Zagreb University Hospital Center, who talked about novelties in the use of spinal orthoses. Major technical advancements refer to the use of new materials and technologies, while in medicine they refer to the modification of indications and protocols

of orthotic treatment. Assist. Prof. Jelić reminded the audience that spinal orthotics is individual, adjuvant and temporary, thus being frequently combined with physical therapy (medical gymnastics in particular) and surgical therapy.

Then, Prof. Vladimir Kovač, MD, PhD (with Mislav Čimić, MD, MS as a coauthor) from University Department of Orthopedics, Dubrava University Hospital, talked about new techniques in operative treatment of scoliosis. The standard modality of scoliosis operation implies posterior (multi hook-screw rod) instrumentation; however, techniques of anterior instrumentation and spondylodesis are also employed. Rigid and ankylosing deformities are managed by posterior and/or anterior vertebral osteotomy.

Surgical options in the treatment of lumbar intervertebral disk herniation were illustrated by Assist. Prof. Damir Kovač (with Head Doctor Boris Božić, MD, PhD, and Goran Lakičević, MD, as coauthors) from University Department of Neurosurgery, Sestre milosrdnice University Hospital. He presented an overview of the development of surgical methods, from the use of broad decompression operations, through the introduction of chemical agents for disk mass reduction, to the implementation of metals and other materials for stabilization of the spine, with currently predominant use of microsurgical procedures in the management of lumbar disk herniation.

It was followed by a lecture by Marta Borić, MD (with Prof. Krešimir Rotim, MD, PhD, and Goran Lakičević, MD, as coauthors) from University Department of Neurosurgery, Sestre milosrdnice University Hospital, on minimally invasive surgery in the treatment of intervertebral disk herniation, including MET-Rx interlaminectomy, selective endoscopic discectomy (SED) and percutaneous laser disk decompression (PLDD). The lecturer emphasized numerous advantages of this mode of treatment, such as less tissue trauma, faster patient recovery and lower cost, with a note that optimal result implies appropriate selection of patients eligible for this type of operation.

Current interventional anesthesiology methods in the management of painful spinal syndromes were presented by Željko Ivanec, MD, from Department of Anesthesiology and Intensive Treatment, Sestre milosrdnice University Hospital. As elaborated by Dr Ivanec, these are inexpensive methods performed in

outpatient setting, mostly epidural infiltration of steroids, unilateral epidural infiltration of cervical, thoracic and lumbosacral spine, infiltration of sacroiliac joints, and occasionally other techniques of regional anesthesia.

Dražen Kvesić, MD, MS, from Lumbago Polyclinic held a lecture on neuroablative procedures in the management of back pain, which are highly cost-effective for reducing the need of operative procedures of the spine, are less expensive than the latter, and are associated with a lower rate of complications and shorter recovery period. Generally, patients at the borderline between conservative and operative methods are candidates for these procedures. The most widely used technique includes precise (x-ray guided) placement of a special type of leads adjacently to particular nerves to disable them thermically for pain transfer from certain spinal structures. The results are usually maintained for 2-3 years.

Darko Perović, MD, PhD, from University Department of Traumatology, Sestre milosrdnice University Hospital, gave a historical review of various methods of spine fixation, yet pointing to the fact that successful fusion of unstable vertebrae leads to the problem of degenerative instability of neighboring segments. This problem stimulated the development

of non-fusion idea, so that the use of dynamic pedicle fixators and artificial lumbar disk was introduced in the past decade. Dr Perović also reviewed current attitudes on collapsed vertebra augmentation (vertebroplasty, kyphoplasty).

The last lecture on the current management in cervical spine surgery was held by Vatroslav Čerina, MD (with Ivan Radić, MD, as coauthor) from University Department of Neurosurgery, Sestre milosrdnice University Hospital. In spite of many controversies, anterior cervical approach remains one of the leading methods in operative treatment of cervical spondylosis, owing to technological development (instrumentarium and navigation techniques) and new implantation materials (artificial cervical disks in particular).

The lectures were followed by vivid and fruitful discussion (moderators, Prof. Simeon Grazio, MD, PhD, and Assist. Prof. Damir Kovač, MD, PhD) and social gathering with refreshments.

In conclusion, the News and Perspectives in Vertebrology Symposium was a very successful meeting at which the participants had an opportunity to acquire new knowledge or resolve some dilemmas, which will eventually result in the best possible care for patients with spinal problems.

Tomislav Nemčić