Plenary Lecture 1: MSK US Applications and Cutting Edge Technology

1 December 2018 (Saturday), 08:05 - 09:30

Prof. Ingrid MÖLLER

Director Instituto Poal Rheumatology, Department of Rheumatology and Ultrasound, University of Barcelona, Spain

- Director and consultant in Rheumatology and musculoskeletal sonography at the Institut Poal de Reumatología, Barcelona 1997
- Assistant professor of anatomy, University of Barcelona from 2011
- Organizer of the SONOANATOMY Workshops under the scientific endorsement of EULAR (2007-2016)
- Faculty and co-director of the Sonoanatomy master program and the the diploma of Experts in musculoskeletal ultrasound from the University of Barcelona
- Faculty of The Ultrasound School of the Spanish Society of Rheumatology from 2002
- Faculty of the EULAR courses of Ultrasound from 2007
- Founder of the EULAR WORKING GROUP ANATOMY FOR THE IMAGE

Visualize Fascia with Ultrasound

The Terminology Anatomica defines 'fascia' as a sheath, a sheet, or any number of other dissectible aggregations of connective tissue. The fasciae have been considered during time territory not interesting for the musculoskeletal specialist although the fascia is covering the organs and muscles of the body human. Fasciae are part of the elements responsible for the coordination of the musculoskeletal system and constitute a potential "hidden" origin of pain. From an image point of view, they are visible and in large part accessible by ultrasound. The superficial fascia is fibroelastic, it is connected to the skin and to the deep fascia, it has a uniform structure and its characteristics differ according to the part of the body that is being studied, among its functions is to allow an anchoring between the skin and the structures more deeply. It can be visualized by ultrasound where it appears as sliding echogenic bands. The term 'deep fascia' refers, according to Stecco, to all the well-organized, dense, fibrous layers that interact with the muscles. According to its thickness and muscular relations it is divided into aponeurotic and epymisial. They are capable of transmitting muscle strength at a distance as a tendon in addition to adapting to variations in muscle volume . This fascia is richly innervated. Just like the superficial fascia, it is visible and accessible by ultrasound. Different aspects of ultrasound of the fascia and its clinical correlations besides their interest in the treatment of pain will be discussed in this lecture.

Plenary Lecture 1: MSK US Applications and Cutting Edge Technology

1 December 2018 (Saturday), 08:05 - 09:30

Prof. Yong-ping ZHENG

Head, Henry G. Leong Professor in Biomedical Engineering, Department of Biomedical Engineering, The Hong Kong Polytechnic University, Hong Kong

Professor Yongping Zheng has been serving as the Founding Head of the Department of Biomedical Engineering in The Hong Kong Polytechnic University (PolyU) since 2012. He has been appointed as Henry G. Leong Professor in Biomedical Engineering since July 2017. Professor Zheng received the BEng and MEng in Electronics and Information Engineering from the University of Science and Technology of China. He received PhD degree in Biomedical Engineering from PolyU in 1997. After a postdoctoral fellowship at the University of Windsor, Canada, he joined PolyU as an Assistant Professor and was promoted to Professor in 2008. He served as the Associate Director of the Research Institute of Innovative Products in PolyU from 2008 to 2010.

Prof. Zheng's main research interests include biomedical ultrasound, soft tissue elasticity measurement and imaging, 3D ultrasound imaging, ultrasound neuromodulation, wearable sensors for healthcare and smart aging technologies. He is a Senior Member of IEEE, a Fellow of Hong Kong Institution of Engineers, Secretary of World Association of Chinese Biomedical Engineers (2017-2019). He has trained 11 PhD and 9 MPhil students, and over 10 postdoctoral fellows, and many of them are now Professor and Associate Professors in different universities in China. He is currently supervising 8 PhD. He also owned around 50 patents, published 230 journal papers, and wrote a book "Measurement of Soft Tissue Elasticity In Vivo: Techniques and Applications", several technologies invented by his team have been successfully commercialized, including Scolioscan (http://scolioscan.com), an ultrasound device to provide radiation-free assessment of scoliosis. He also serves as Associate Editor and Editorial Board Members for some leading journals in the field, including Ultrasound in Medicine and Biology, Physiological Measurement, Journal of Medical and Biological Engineering, Journal of Orthopaedic Translation, and Biomedical Signal Processing and Control.

MSK US Cutting Edge Technologies

MSK ultrasound is becoming more compact, wearable, functional, and ultra-fast. In this talk, a number of cutting edge development in the field of MSK ultrasound will be introduced. A wearable ultrasound system for human motion analysis and dynamic muscle evaluation will be elaborated together with preliminary results obtained for lower limb muscles during walking. In addition, studies using elasticity imaging and measurement for investigating back muscle stiffness under different conditions will be shared. A recent development of ultra-fast imaging system for muscle contraction (>4000 frame per second) will also be introduced with preliminary results of onset time study. Finally, a demo of using a palm-sized wireless ultrasound probe will be given for different applications of MSK assessment.

Concurrent Session 1: MSK US Upper Limb – Cases Discussion & Interactive Session

1 December 2018 (Saturday), 10:00 - 11:30

Dr. Rajesh SINGH
Clinical Associate Professor, Department of Orthopedic Surgery, Monash University Malaysia, Malaysia

Associate Professor Dr Rajesh Singh is at the forefront of using the modality of Ultrasound in Diagnosis, Prognosis and Performance of Image guided surgery in Orthopedics.

He gained his BSc and MBBS from the University of New South Wales, Australia with an Honors award. He subsequently did his basic surgical training in New Zealand. He completed his higher surgical training at the University of Malaya, where he gained the only distinction award in the history of the Masters of Orthopedic Surgery program.

He teaches Gross Anatomy & Histology at the Malaysian campus of Monash University, supervises higher research degree candidates at Suway University, practices in Kuala Lumpur, Malaysia and Sydney, Australia.

He has extensive surgical- ultrasound correlation experience which has allowed him to expand the use of soft tissue image guided surgical techniques. Minimally Invasive Surgical Procedures (MISP) allow for very fast and accurate surgical procedures with minimal morbidity.

His latest publication this year is on the use of artificial intelligence in the detection of surgical instruments in the performance of image guided surgery.
He is also the medical director of a multidisciplinary clinical group comprising surgeons, physiotherapists and chiropractors working for the benefit of patients.

Shoulder Pain

Shoulder pain for the purposes of this discussion will be considered in 2 parts:

1) Pain from abnormality in normal structures at rest

2) Pain in movement arising from the interplay between normal biomechanics and the above.

Much of the literature on the shoulder in MSK ultrasound focuses on abnormalities of isolated

structures without taking into account the global function of the part. This gives a clouded picture of the importance that should be placed on a particular abnormality that is found. There are age related changes that must be appreciated as being normal despite having altered appearance on the ultrasound examination.

A basic understanding of biomechanics in general and a specific understanding of shoulder biomechanics will help participants to understand that much of what is considered "Shoulder pain" does not arise from the Glenohumeral joint. The whole of the shoulder girdle needs to be appreciated to correctly identify and treat the causes of "Shoulder pain".

Disorders that cause relative weakness of the shoulder girdle such as cervical spondylosis with nerve root impingement, neurogenic thoracic outlet syndrome and rotational scolisis need to be correctly considered as well.

From this, correct rehabilitative strategies and surgical management can be formulated.

Concurrent Session 1: MSK US Upper Limb – Cases Discussion & Interactive Session

1 December 2018 (Saturday), 10:00 - 11:30

Dr. Andrew WAI
Consultant Radiologist, , Dr. Roentgen and Partners Medical Imaging, Hong Kong

Dr. Andrew Wai is a medical graduate of the University of Hong Kong. He completed his residency and radiology fellowship training at the Queen Elizabeth Hospital.
During his service in the Queen Elizabeth Hospital, he obtained subspecialty training in musculoskeletal imaging, oncological imaging and interventional radiology.
He completed fellowships in musculoskeletal imaging in the Thomas Jefferson University (USA), MRI and Functional imaging in the University College of London (UK), as well as oncological imaging in the University Hospital Zurich (Switzerland).

He is a keen sportsman himself and is very active in the field. He is passionate about teaching radiology knowledge to fellow clinicians, and has delivered more than 100 invited lectures in the latest advances in radiology.
He regularly delivers lectures and workshops to anaesthetists, sports physicians, orthopedic surgeons, neurologist and oncologists. He performed multiple live demonstrations on scanning and percutaneous image-guided interventions in musculoskeletal radiology, sports imaging and pain medicine management.

He has worked as a consultant radiologist in Union Hospital and various institutions. Dr. Wai is currently working at the Dr. Roentgen & Partners Medical Imaging in Central, Hong Kong.

Wrist Pain

It will be presented at the Congress.

Concurrent Session 1: MSK US Upper Limb – Cases Discussion & Interactive Session

1 December 2018 (Saturday), 10:00 - 11:30

Dr. Gavin Ka-wing LEE
Specialist in Rheumatology, , Hong Kong Sanatorium & Hospital, Hong Kong

Gentleman with Atypical Elbow Pain with Arthritis

It will be presented at the Congress.

Concurrent Session 2: Back Pain – Dynamic Scan and Active Rehabilitation

1 December 2018 (Saturday), 10:00 - 11:30

Dr. Shueng-wai LAW
Consultant Surgeon and Deputy Chief of Service, Department of Orthopaedics and Traumatology, Tai Po Hospital, Hong Kong

Dr Law is currently a consultant surgeon and Deputy Chief of Service in the Department of Orthopaedics and Traumatology at Tai Po Hospital.

Dr. Law graduated from the Chinese University of Hong Kong and received his MBChB in 1993. After finishing his fellowship training in Orthopedic Surgery. He has pursued postgraduate qualifications in various fields of medicine.

He obtained Master of Occupational Medicine, Master of Sciences in Epidemiology and Bio-statistics, Postgraduate Diploma in Clinical Gerontology, Master of Science in Health Services Management from the Chinese University of Hong Kong.

His professional interests include Orthopedic Rehabilitation- coordination of care for elderly with fragility fractures, management of osteoporosis, work rehabilitation and return to work management for injured workers, rehabilitation technology and spine surgery. Dr. Law has served in the Hong Kong Osteoporosis Foundation since 2002 and is currently the President of the Society.

Sagittal Alignment of Spine - Pain , Disability and Instability

It will be presented at the Congress.

Concurrent Session 2: Back Pain – Dynamic Scan and Active Rehabilitation

1 December 2018 (Saturday), 10:00 - 11:30

Mr. William Wai-lam WONG
Physiotherapist I, Physiotherapy Department, Prince of Wales Hospital, Hong Kong

Mr Wong, Wai Lam William is a Registered Physiotherapist since 1998.

Post-graduated Qualification

2001 Professional Diploma in Acupuncture for Physiotherapists,

Hong Kong Baptist University

2005 MSc in Gerontology, *Chinese University of Hong Kong*

2007 Exercise Specialist, *American College of Sports Medicine*

2009 MSc in Manipulative Physiotherapy, *Hong Kong Polytechnic University*

19 years of experience in Physiotherapy Department, Prince of Wales Hospital.
Team Leader in Musculoskeletal team
Conducted clinical studies in physiotherapy management program for elderly with back pain, acupuncture in acute post-operative setting and co-care model of low back pain in Hong Kong

Physical Therapy in Aging Spine - Muscle , Bone and Disc

Back related pains are common in elderly population. Age-related changes of the spine affect all structures and the changes are unrelenting. Most of the degeneration are irreversible. As a form of conservative treatment, what can physiotherapy do about it?

Majority of back pain in elderly is a symptom-based condition rather than a specific, tissue-based pathology. Physiotherapy intervention should be focused on preventing chronicity, treatment impairment and disability. Matched treatments are provided to patient with different risk level of chronicity and poor clinical outcome. Instead of focusing on passive treatment modalities, emphasis should be put on active back and limbs exercises. Elders are empowered to monitor their personal aerobic exercise regime. Rehabilitation training program to enhance energetic lifestyle benefits elderly with back pain in improving their physical and psychological functioning.

Concurrent Session 2: Back Pain – Dynamic Scan and Active Rehabilitation

1 December 2018 (Saturday), 10:00 - 11:30

Dr. Carina Ching-fan LI
Specialist in Anaesthesiology, , Hong Kong Pain Medicine Centre, Hong Kong

MSK Ultrasound Dynamic Assessment & Coaching for Cores Muscles Training

It will be presented at the Congress.

Concurrent Session 3: Lower Limb Pain in Sports Injury Calf and Ankle Pain

1 December 2018 (Saturday), 10:00 - 11:30

Dr. James LINKLATER
Clinical Director, Castlereagh Sports Imaging, Castlereagh Imaging, Australia

MB BS (Hons), B Med Sci, DDU (1), FRANZCR
Musculoskeletal Radiologist, Castlereagh Imaging
Clinical Lecturer, University of Sydney and University of NSW

James is a musculoskeletal radiologist practicing in Sydney with Castlereagh Imaging, St Leonards, where he is Clinical Director. He is a consultant radiologist with a number of professional sporting teams and has an active research program which includes imaging assessment of interventions for osteoarthritis and FAI and imaging of ACL reconstructions. He is an examiner for the College, is a past president of AMSIG and serves on the editorial board of Sport Health and Current Radiology Reports.

Dr. George PITSIS
Specialist Sport & Exercise Physician, , Sports Medicine Institute, Australia

Dr Pitsis practices the philosophy that "exercise is medicine" and has over 20 years' experience as the team physician for many international and Australian national level sporting teams and players, including football (soccer), rugby union, rugby league and basketball.

Whilst working with elite sporting athletes, Dr Pitsis also operates an integrated sports medicine facility, **Sports Medicine Institute**, in Miranda, NSW which is a leading establishment amongst the first of its kind, combining specialist doctors, allied health professionals and a commercial gymnasium, providing a holistic and complete service offering all under one roof to patients including young children, to the elderly members of the community.

Sports medicine is not a discipline reserved only for athletes – the most common problems patients present with relate to the musculoskeletal system (such as strains, fractures and breaks) as well as related injuries, conditions and ailments which include concussion, digestive issues, chronic fatigue, infectious diseases, depressions and respiratory/ sleep disorders. These injuries and issues may have their origins on the sporting field, but more commonly are sustained at home, in the workplace, driving or operating machinery or simply partaking in daily activities and hobbies.

Dr Pitsis is a dedicated and leading specialist in his field, focused on returning patients to their pre injury state, and even helping them to improve from there, promoting a life of health and longevity.

Dr Pitsis completed his medical degree at the University of Sydney in 1993 and combined his passion for sport and medicine by obtaining his Fellowship with the Australasian College of Sport and Exercise Physicians in 2004.

Dr Pitsis also completed his Diploma in Paediatrics in 1996 and a Masters of Sports Medicine in 2002 at University of New South Wales.

Between 2013 and 2017, Dr Pitsis was the Chief Medical Officer for the Cronulla Sharks NRL team and played an integral role in the success of the team, particularly during their history making 2016 premiership victory.

Dr Pitsis has also been actively involved in the 2000 and 2004 Olympic Games and the 2006 and 2018 Commonwealth Games appointed as the Chief Medical Officer for the Cyprus Commonwealth Games team.

Sports Injuries in the Calf, Ankle and Foot

Injuries to the calf, ankle and foot remain as one of the most common areas affecting athletes.

Through live and interactive clinical and ultrasound examinations of patients this interactive session will explore various presentations and pathologies, as well as discuss various management strategies including demonstration of rehabilitation exercises and various ultrasound guided injection options.

Plenary Lecture 2: Town Hall Debates: Non-surgical Approaches of Keen Pain Management

1 December 2018 (Saturday), 13:00 - 14:30

Dr. Sang-hoon LEE
Medical Director, Department of Pain Management, Madi Pain Management Center, Korea

Dr Lee is the Medical Director of Madi Pain Management Center in his private practice where he practices MSK examination, US guided MSK and spinal interventional care, and C-arm guided interventional spinal care. He has been dedicated in basic medical research in Korea University as a clinical professor and Montpellier university pain diploma course in Seoul.
Dr. Lee graduated from College of Medicine, Jeonbuk National University in 1992 and earned his doctoral degree(PhD) in the same University. He also sub-specialized in Radiology and was board certified with Korean National Board of Radiology.
Dr Lee has authored or co-authored over 20 articles in peer reviewed journals, 1 text book on exercise treatment, and 3 text books on US guided pain intervention. He volunteered or has served on multiple professional committees for the Korea Pain Intervention Society, Korea scientific meeting of International Spine Intervention Society, Korea Musculoskeletal Ultrasound Society, Multidisciplinary Musculoskeletal Symposium Ultrasound on Pain Management, International Symposium of Ultrasound for Regional Anesthesia and Pain Medicine, and International Symposium on Ultrasound Guided Regional Anesthesia and Pain Interventions. Dr. Lee has been an invited lecture to over 150 regional, national, or international presentations and has been featured in regional newspaper segments.

MRI Role in Non-surgical Approaches of Knee OA Pain Management

Since it was first described in 1988 in the hip joint, the interest in bone marrow edema (BME) has gradually increased over the last few years. For a long time, OA has been regarded as a disease of cartilage degeneration. In the last years this concept evolved, and now OA is commonly considered as a pathological condition involving all the joint components, including the synovium and the subchondral bone. The growing use of MRI in the evaluation of knee conditions has shown that the subchondral bone is the frequent site of signal alterations named as subchondral bone marrow edema (BME). From the radiological point of view, BME can be defined as an area of altered signal on the MRI of the bone, which shows a low signal intensity on T1 weighted images and a high signal intensity on fat-suppressed, T2 weighted, and STIR or Dixon water images in comparison with the normal bone marrow. The altered signal pattern observed on MRI is probably related to a

replacement of normal fatty bone marrow by a more water-rich material in chronic knee OA. BME in the subchondral bone of subjects with knee osteoarthritis (OA) seem to be associated with pain and progression of cartilage damage over time. Some histopathological studies of advanced OA have shown a prevalent fibrosis and bone marrow necrosis. The association between BML and pain was suggested by some studies performed on patients affected by knee OA. Felson et al. demonstrated a higher prevalence of BML in subjects with symptomatic knee OA than in patients without symptoms. Driban et al. found that large BMLs were associated with greater pain and their disappearance with pain resolution. The natural history of BML is extremely variable, since some studies showed that BML can develop, fluctuate in size, and regress in OA patients, but also in the general population without OA. An association between BML and cartilage damage has been demonstrated in cross-sectional and longitudinal studies. Although the clinical and prognostic meaning of BML in OA is quite well established, the underlying pathology and pathogenic mechanisms are still a matter of debate. There is a high prevalence rate of BML in subchondral regions where the load is high. For example, BME is common in the medial compartment in varus knees or the lateral compartment in valgus knees. This data strongly supports the hypothesis of a possible role of repeated trauma in the genesis of these lesions. Even if the pathogenic mechanism of BML in OA still needs to be better clarified, as well as the mechanism linking subchondral bone to cartilage degradation, the observed association of bone alterations with symptoms and disease progression has aroused interest in the possibility of targeting bone in OA treatment.

Plenary Lecture 2: Town Hall Debates: Non-surgical Approaches of Keen Pain Management

1 December 2018 (Saturday), 13:00 - 14:30

Dr. Ke-vin CHANG
Clinical Assistant Professor, Department of Physical Medicine and Rehabilitation, National Taiwan University Hospital, Bei-Hu Branch, Taiwan

Dr. Chang is a board certificated physiatrist, a Certificated Interventional Sonographist (CIPS) certificated by World Institute of Pain (WIP), a Registered Musculoskeletal Sonographer (RMSK) and a pain and ultrasound specialist certificated by American Society of Regional Anesthesia and Pain Medicine (ASRA-PMUC). He excels in diagnostic and interventional ultrasound for musculoskeletal disorders. He is also skilled in meta-analysis, a statistical method widely used in evidence based medicine. He has more than 110 publications indexed in PubMed (https://www.ncbi.nlm.nih.gov/pubmed/?term=chang+kv). He is the founder of "MSK ultrasound club" in Facebook, a well-known on-line platform for experts in musculoskeletal ultrasound. He is the organizer of USMSIT (Ultrasound Musculoskeletal Workshop in Taiwan) and NMUSIT (Neuromuscular Ultrasound Workshop in Taiwan), both of which are dedicated to education of musculoskeletal and neuromuscular ultrasound for health practitioners all over the world. He devoted himself in promoting diagnostic and interventional ultrasound and has been the invited speaker in Kuwait, Thailand, Indonesia, Philippine, Turkey, Korea, Malaysia, Myanmar, Czech Republic, Hong Kong and Mainland China.

Ultrasound-guided Diagnosis and Intervention for Painful Knees: Sonoanatomy Revisited

Ultrasound (US) has been an emerging tool for assessing musculoskeletal pain. In patients with knee pain, it is useful in diagnosing pathology derived from the suprapatellar pouch, quadriceps tendon, patellar tendon, medial and lateral collateral ligament and pes anserine tendon. US is also helpful in identifying dynamic disorders, like snapping knee syndrome. Numerous cadaveric studies have proved that US-guided injection of knee joints had better precision than palpation guided injections. Nevertheless, although there is wide use of US in imaging and guided intervention of knee joints, some structures are not included in routine US knee examinations but sometimes become the culprits of recalcitrant knee pain. In this regard, the present presnetation aims to revisit anatomy of those commonly neglected pain generators of the knee as well as their guided intervention techniques.

Plenary Lecture 2: Town Hall Debates: Non-surgical Approaches of Keen Pain Management

1 December 2018 (Saturday), 13:00 - 14:30

Dr. Philip PENG
Professor, Department of Anesthesiology and Pain Management, University of Toronto, Canada

Dr. Philip Peng is a full professor in the Department of Anesthesia and Pain Management of University of Toronto.

He has played an important role in the education of the pain medicine and established major teaching courses for Pain in Canada such as National Pain Refresher Course, Canadian Pain Interventional Course, and Ultrasound for Pain Medicine Course. Royal College of Physicians and Surgeons of Canada (RCPSC) honored him with Founder designation in Pain Medicine for his role in establishing Pain Medicine subspecialty in Canada. Besides, he currently serves as the Chair of Exam committee in Pain Medicine in RCPSC, and previously served as the chair of the Education Special Interest Group (SIG) of Canadian Pain Society and the founding executive of Pain Education SIG of International Association for the Study of Pain (IASP). He has been honored with numerous teaching awards at national and regional level.

Dr. Philip Peng is also a leader and pioneer in the application of ultrasound for pain medicine. Being one of the founding fathers for Ultrasound for Pain Medicine (USPM) SIG for ASRA (American Society of Regional Anesthesia), he was involved in the establishment of the guideline for Education and Training for USPM, which was adopted by five continents. He is the chair for the new Ultrasound for Pain Medicine Exam Certificate and chair for the Musculoskeletal Pain Ultrasound Cadaver workshop for ASRA. He has been the chair or main organizer for various major teaching course for USPM, including satellite meeting of World Congress of Pain, International Pain Congress, satellite meeting for combined Canadian and British Pain Society Conference, International Symposium of Ultrasound for Regional Anesthesia (ISURA), Canadian Pain Interventional Course.

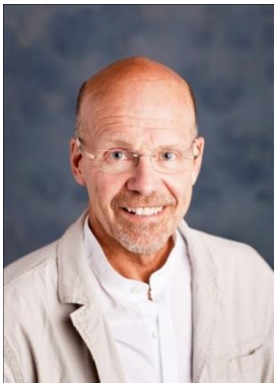
He is currently the director of Anesthesia Pain Program in Toronto Western Hospital and Interim Director of Wasser Pain Management Center. He has edited 7 books and published more than 150 peer-reviewed publications and book chapters.

Radiofrequency Ablation of the Knee

The lecture will talk about the non-surgical intervention for the knee osteoarthritis. It will range from intra-articular injection fo steroid, viscosupplment, and platelet rich plasma. Furthermore, a review of the start-of-the-art in denervation of knee, from anatomy to clinical efficacy will be discussed.

Concurrent Session 4: MSK US Lower Limb – Cases Discussion & Interactive Session

1 December 2018 (Saturday), 15:00 – 16:30



Dr. David BONG
Rheumatologist, , Instituto Poal de Reumatologia in Barcelona, Spain

David Andrew Bong is a board-certified rheumatologist affiliated with the Instituto Poal de Reumatologia in Barcelona, Spain and, previously The Vancouver Clinic in Vancouver, Washington, USA. He is also a Professor in the Masters Certificate Programme in Musculoskeletal Sonoanatomy at the Department of Anatomy at the University of Barcelona-Bellvitge Campus.

Dr Bong completed his Medicine degree at the University of Wisconsin Medical School (Madison, USA) before completing training in Internal Medicine at Indiana University Hospital (Indianapolis, USA) and fellowship trainings in Rheumatology at Oregon Health Sciences University (Portland, USA).

Dr Bong is a founding fellow of the American College of Rheumatology and is a past President of the Northwest Rheumatism Society (Seattle, USA). He is an Associate Professor in Anatomy at the Facultat de Medicina-Universitat de Barcelona and a professor in the Ultrasound School of the Spanish Society of Rheumatology (SER) and holds medical licensure in Spain and is a member of the Official Medical College of Barcelona (COMB). He has been a member of the annual EULAR Musculoskeletal Ultrasound Faculty since 2010 and an organizer/faculty of the Barcelona Sonoanatomy Course since 2009. He holds Level 3 Certifiication of Musculoskeletal Ultrasound Competency-Rheumatology with the European Federation of Societies for Ultrasound in Medicine and Biology (EFSUMB) and Level 2 Ultrasound Certification with EULAR.

Ankle Pain

In this session, a series of cases will be presented involving the lower extremity as an interactive session to provoke discussion of the use of ultrasound in the diagnosis and management of challenging musculoskeletal problems encountered by the musculoskeletal ultrasound specialist. Areas discussed will include the posterior hip region from ischiocrural insertion to the deep gluteal region (the so-called “piriformis syndrome”) with its complex anatomy and technically challenging ultrasound evaluation along with ultrasound guided intervention.

Concurrent Session 4: MSK US Lower Limb – Cases Discussion & Interactive Session

1 December 2018 (Saturday), 15:00 – 16:30

Dr. Carina Ching-fan LI
Specialist in Anaesthesiology, , Hong Kong Pain Medicine Centre, Hong Kong

Dr. Lisa WONG
Specialist in Radiology, Hong Kong

A Case of Severe Calf Soft Tissues Sport Injury

It will be presented at the Congress.

Concurrent Session 4: MSK US Lower Limb – Cases Discussion & Interactive Session

1 December 2018 (Saturday), 15:00 - 16:30

Dr. Renaud GUIU
Sports Physician and Head of Medical PVF Football Academy, Vietnam

I am a french physician doctor, graduated in manual medicine and diving medicine, and with 8 years of practice in MSK ultrasound. I have been in charge of the health of Paris Firemen (BSPP) for several years, then became the medical director of professional football and handball teams in the Paris region.
I am in Hanoï Vietnam since September 2018 for the creation, in close collaboration with the VINMEC Hospitals, of a high-level sports medical center within the PVF football academy. The center will be open to all professional footballers and top athletes from Vietnam and abroad.
I am passionate about MSK ultrasound always with the aim of improving the diagnostic and therapeutic care of patients. There are many methods and techniques particularly dynamic evaluation to develop in MSK fields if you have a little imagination.

Case Sharing on Sprain Ankle: Dynamic Ultrasound for Distal Ankle Tibio-fibular Syndesmosis

Sprains of tibiofibular syndesmosis are frequent but poorly understood and under diagnosed lesions. Their treatment is uncertain, and their evolution is sometimes very unfavorable.
A rapid and simple dynamic ultrasound evaluation of the ankle allows anterior and posterior visualization of syndesmosis.

The realization of this evaluation requires maneuvers of external rotation of the ankle with a patient in the prone position the foot outside the examination table, and the perfect relaxation of the patient.

In the healthy patient, we first observe the physiological mobility of the fibula, which seems to have a posterior translation and an external rotation relative to the tibia, and then the tensioning of the anterior tibiofibular ligament (AITFL) that drives the tibia. Back, in a latero-medial axis, the posterior parts of tibia and fibula are getting closer with a visible bulging of the posterior tibiofibular ligament. This physiological mobility is however variable according to individuals with patients with more or less mobile tibiofibular joint.

During acute injuries and complete tear of the anterior tibiofibular ligament, the dissociation of the mobilities between the fibula and the tibia, which no longer involves the tibia during external ankle rotation, is then perfectly visualized in the anterior view.
In chronic lesions, the maneuver shows a looser dissociation with relaxed anterior tibiofibular ligament. In posterior view, we can frequently observe lesions of the tibial insertion of the posterior tibiofibular ligament with local reworkings and small bony avulsions. These attacks

seem to signify the seriousness of the sprain but are not accompanied by a frank increase of mobilities in dynamics. These posterior lesions, however, raise the question of the lesion mechanism that induced them. The dynamic ultrasound observation seems however in favor of a posterior subluxation of the fibula with a possible impaction between fibula and tibia.

In conclusion, simple dynamic maneuvers provide a better understanding of biomechanics and accurate diagnosis of tibiofibular syndesmosis lesions. The position and the relaxation of the patient are very important in their realization. However, their interpretation can be made difficult by interindividual differences in physiological laxity and sometimes require comparative examination with the contralateral ankle.

Key Words: syndesmosis, dynamic, ultrasound, ankle, sprain

Concurrent Session 5: Sports Science and Pain

1 December 2018 (Saturday), 15:00 - 16:30

Ms. Sally POON
Dietitian, , Hong Kong Pain Medical Centre, Hong Kong

Registered Dietitian (Health and Care Professions Council, UK)
Accredited Practising Dietitian (Dietitians Association of Australia)
Master of Nutrition & Dietetics (The University of Sydney, Australia)
BSc Nutrition (King's College, London)
Sports Nutrition (HKUSPACE)

Sally specialises in bariatric surgery nutrition, diabetes and oncology. She is a private dietitian, and has part-time roles at Hong Kong Bariatric and Metabolic Institute and Maggie's Cancer Caring Centre. She is currently the Chairman of Hong Kong Practising Dietitians Union and a committee member of the Child Nutrition Advisory Group.

Ketogenic Diet and Sports Performance

Ketogenic diet (KD) is a high fat (about 70% to 80% of total calories), moderate protein, and low carbohydrate diet (less than 20 to 30 g per day). KD leads to reliance on ketones as usable energy and shift to lipid metabolism. It is an effective treatment for patients with epilepsy and has gained its popularity in recent years in the athletic field. Currently, limited and mixed evidence remains regarding the overall efficacy of KD for athletes. Dietary extremes and potential health side effects can challenge long-term adherence. Until high-quality randomized-controlled trials becomes available, health care professionals should be cautious about recommending KD as a means for weight loss or enhancing sports performance.

Concurrent Session 5: Sports Science and Pain

1 December 2018 (Saturday), 15:00 – 16:30

Mr. Ka-kit LIU
Sports Therapist, , Hong Kong Pain Medical Centre, Hong Kong

With a background at both supporting, coaching elite athlete and self participating in varies sports, K. K. brings enthusiastic in sports spirit to his role at sports and recreation field.

Having worked for over a decade in sports and clinical field, K. K. has spent most of his professional career working on training, medical support among varies level individual athletes and organizations.

Foam Roller

Daily application of foam roller, massage ball for fascia release.
This session will going to introduce useful techniques to reduce musculoskeletal tension according to fascia location, which assist to maintain ideal posture and relief musculoskeletal pain.

Concurrent Session 5: Sports Science and Pain

1 December 2018 (Saturday), 15:00 – 16:30

Dr. Penelope SHAM

Associate Consultant, Department of Anaesthetic & Intensive Care, Tuen Mun Hospital, Hong Kong

Yoga and Pain Management

It will be presented at the Congress.

Concurrent Session 6: Cancer Pain Management in Spine Metastasis – Multidisciplinary Approach

1 December 2018 (Saturday), 15:00 - 16:30

Dr. Eva Wui-ming YEUNG
Associate Consultant, Department of Clinical Oncology, Prince of Wales Hospital, Hong Kong

Dr Eva Yeung is a Clinical Oncologist and serves as the Associate Consultant in the Department of Clinical Oncology at Prince of Wales Hospital in Hong Kong. Dr Yeung completed her Bachelor of Medicine and Bachelor of Surgery at The Chinese University of Hong Kong. She is a Fellow of the Royal College of Radiologists since 2014 and the Fellow of the Hong Kong College of Radiologists since 2017. She subsequently completed her overseas training at the Department of Radiotherapy at the Medical University of Vienna in Vienna General Hospital.

In 2016, she was awarded the Hong Kong Society of Clinical Oncology Award for the Best Proffered Paper Presentation at the 24th Annual Scientific Meeting of Hong Kong College of Radiologists.

Dr Yeung's clinical interests in oncology include gynaecology oncology, neuro-oncology, paediatrics oncology and palliative medicine. She is currently a member of Spinal Metastasis Multi-disciplinary Team of the New Territories East Cluster.

Role of Radiotherapy in Management of Spinal Metastasis

Spinal metastases are becoming increasingly common because patients with metastatic cancer are living longer. Historically, treatment of this condition is always palliative, with the goal being prevention and treatment of spine related events such as pain, vertebral fracture and spinal cord compression. In the past decade, we have witnessed a dramatic change in the treatment paradigms due to the development of improved surgical techniques, radiation therapy and systemic therapy, leading to a more durable control and improvement in patient outcome. Radiotherapy plays an important role in management of spinal metastasis. Conventional external beam radiation therapy (cEBRT) is a mainstream therapeutic modality for pain relief; however the local control rates are suboptimal. The biggest advancement in radiotherapy is the evolution of stereotactic body radiotherapy (SBRT). It has the advantages of delivering "locally ablative" dose with an intent to maximize pain relief and local control rate. The combination of SBRT and minimally invasive surgical technique gives promising results. In conclusion, optimal management of spinal metastasis becomes a challenge that requires a multidisciplinary approach including oncologists,

surgeons, interventional radiologists and pain specialists.

Concurrent Session 6: Cancer Pain Management in Spine Metastasis – Multidisciplinary Approach

1 December 2018 (Saturday), 15:00 - 16:30

Dr. Eric Ka-chai LAW
Clinical Assistant Professor (Honorary), Department of Imaging and Interventional Radiology, The Chinese University of Hong Kong, Hong Kong

Dr Eric Law obtained his pharmacology bachelor of science degree at the University of Toronto before obtaining his primary medical qualification at the Chinese University of Hong Kong in 2010. He undertook radiology residency training at the Prince of Wales Hospital in Hong Kong where he obtained his fellowships from the UK in 2015 and from Hong Kong in 2018. He has developed a subspecialized interest in musculoskeletal radiology and is heavily involved in oncological imaging and intervention. He has published 15 papers in his residency and has lectured in various local and international conferences. He was the recipient of a RSNA travel award for one of his research projects in musculoskeletal imaging.

Radiological Interventions: Cementoplasty, Vertebroplasty and Radiofrequency

Image-guided percutaneous vertebroplasty and cementoplasty involve bone consolidation with cement injection, with the view towards stabilizing recent pathological fractures and pain relief in patients with bone metastases. Another treatment modality, radiofrequency ablation (RFA), can also be used for the palliation of localized painful osteolytic metastatic and myeloma lesions. The reduction in pain improves the quality of life of patients with cancer, who often have multiple morbidities and a limited life expectancy. Here in this talk, we will outline the accepted indications for patient selection and present the principle of image-guided lesion access and cement injection. Our experience and results of vertebroplasty, cementoplasty, and RFA will also be emphasized. A multi-disciplinary approach, knowledge of the anatomy, technique, expected outcomes, and potential complications are essential to successful procedures.

Concurrent Session 6: Cancer Pain Management in Spine Metastasis – Multidisciplinary Approach

1 December 2018 (Saturday), 15:00 - 16:30

Dr. Koon-man SIEH
Consultant, Department of Orthopaedics and Traumatology, Alice Ho Mui Ling Nethersole Hospital, Hong Kong

Dr. Sieh graduated from the Faculty of Medicine of Hong Kong in 1995. He currently is the consultant of the department of Orthopaedics and Traumatology, Alice Ho Mui Ling Nethersole Hospital.

He received his oversea training in various centers included the Royal National Orthopaedics Hospital, Stanmore in London; Trauma center in Murnau and SRH Klinikum Langensteinbach, Karlsbad of Germany.

He obtained his Master of Public Health and the Postgraduate Diploma of Health Service Management and Public Health form The Chinese University of Hong Kong. He is currently the honorary assistant Professor of the department of Orthopaedics and Tarumatology, Faculty of Medicine, CUHK

He is an Orthopaedic surgeon with special interest in spine surgery. He is particularly interested in Minimally Invasive Spine Surgery (MISS) and management of degenerative spine problems and spinal metastatic diseases.

He is the international and regional faculty of AO Spine, an international educational foundation on the development of spine surgery education. He is the officer of AO Spine East Asia and the council member of Spine Chapter of Hong Kong Orthopaedics Association and Hong Kong Minimally Invasive Spine Surgery Society (HKMISSS)

Spine Intervention – MISS in treatment of Spinal Metastasis

Spinal metastasis has great impact to patient's quality of life. Surgical treatment of spinal metastasis is controversial. Generally speaking, neurological compression is the key indications for surgery. But a painful spine is also distressing not only because of the disability and suffering. It can be an alarming sign of weakening of the vertebrae that will progress to spinal compression and paralysis if not address and treated promptly. The prognosis and functional recovery of patient with metastatic paralysis is generally poor.

Patient with advance metastasis may be precluded from surgery because of the surgical trauma. MISS technique has the advantage of less surgical trauma, shorter operative time and blood loss that widen the indication for surgical stabilization and hopefully with better postoperative function and recovery.

The application of MISS, prophylactic stabilization and multidisciplinary approach is the new paradigm in management of spinal metastasis.

Concurrent Session 6: Cancer Pain Management in Spine Metastasis – Multidisciplinary Approach

1 December 2018 (Saturday), 15:00 - 16:30

Prof. Dong-eon MOON
Director, Department of Anesthesiology, The Moon Pain Clinic, Korea

Dr. Moon graduated from the Catholic University of Korea and completed his special training in Korea. He completed postdoctoral training in pain research and interventional pain procedures at the University of Texas and also Robertwood Johnson Medical School, NJ, USA. He is currently an honorary professor of the Catholic University of Korea and a previous president of the Korean Pain Society. He is recognized as one of the most outstanding clinician for the chronic pain intervention including US-guided procedure in Korea. For the last 25 years as a faculty member at the Catholic University of Korea, Dr. Moon has published 28 manuscripts and gave over 65 international lectures and/or workshops about MSK ultrasound or interventional pain procedures. He is currently medical director of a private The Moon Pain Clinic located in the center of Seoul.

Non-Surgical Intervention for the Lumbar Radicular Pain and Spinal Canal Stenosis

Chronic lower back or leg pain was found to occur not only in response to mechanical stimuli, but also to chemical irritation around the nerve root sheath, gray rami communicans and sinuvertebral nerve. For the treatment of mechanical factor, Radiofrequency Intradiscal Nucleoplasty can be performed with the use of YesDisc® instruments. With the use of this technique mechanical compression can be relieved due to decreasing intra-discal pressure. The chemical factors are also important. Leakage of the disc material into the epidural space following an annular tear leads to acute inflammation and consequent epidural adhesions, which result in compression of the nerve roots. While peridural or neural fibrosis in itself is not painful, it can produce pain by trapping spinal nerves so that movement produces tension in the inflamed nerves. Generally, fluoroscopic-guided epidural injections have been used to treat radicular pain or radiculopathy. However, a considerable number of patients do not achieve meaningful pain relief through epidural injections. This was because the epidural space in these cases was restricted by perineural or epidural adhesions/ fibrotic tissues, and the injectate frequently failed to spread effectively into the ventral epidural space.

Percutaneous epidural neuroplasty (PEN) is a minimally invasive therapy in which a catheter is

placed directly into the herniated disc or scar tissue compromising the nerve root. It has potential as a useful treatment method for patients with chronic pain that is refractory to conservative treatments. The rationale for PEN is that chronic pain is mainly caused by perineural fibrosis and that PEN has the ability to eliminate the deleterious effects of adhesion, which can physically prevent the direct application of drugs around the nerves. This property enables the physician to place the catheter tip and deliver pain medication more precisely to the affected neural sheath and perform mechanical adhesiolysis. However, if there is severe epidural adhesion or foraminal stenosis, we cannot produce satisfactory result with L-PEN. In this case, we do percutaneous foraminoplasty with FORAMOON® kit. Percutaneous foraminoplasty (PFP) with is minimally invasive technique addresses not only the optimization of the foraminal volume with correction of pathology in and around foramen but focuses upon restoring the mobility of the exiting and descending nerve root and correction of the pathology in and around the foramen.

By removing trans-foraminal ligament, ligamentum flavum, osteophyte and perineural scarring, restoring mobility of exiting and transiting nerve root and neural function.

Plenary Lecture 3:

1 December 2018 (Saturday), 16:30 - 18:00

Prof. Sang-chul LEE

Professor Emeritus, Seoul National University College of Medicine, Kwanghye Hospital, Korea

Professional Records

Jun. 1986 - Sep. 1988 Instructor, Seoul National University College of Medicine
Oct. 1988 - Sep. 1993 Assistant Professor, Seoul National University College of Medicine
Oct. 1993 - Sep. 1998 Associate Professor, Seoul National University College of Medicine
Oct. 1998 - to date Professor, Seoul National University College of Medicine

Activities

(in Korea)
Past
*16th President (2008. 11-2010. 11) of Korean Society of Anesthesiologists
*14th President (2004. 11-2006. 11) of Korean Pain Society
*President (2010.9-2013.11) of Korean IASP Chapter
*President of Korean Spinal Pain Society
*President of Korean IMS Society
*President of Korean Society of Complementary and Alternative Medicine
*Director, Institute of Complementary and Integrative Medicine, Medical Research Center, Seoul National University (2005-2013)

(international)
Current
*Korea Section Leader: World Institute of Pain
*Honorary member of Taiwan Pain Society
Past
*13th President of World Society of Pain Clinicians (2006-2008)
*President of Asian Australasian Federation of Pain Societies
*NE Asia Section Leader, Council Member: World Institute of Pain
*Distinguished Professor of Northern Jiangsu People's Hospital, Clinical Medical School of

Yangzhou University

Advance in Minimal Spinal Pain Interventinos for Radicular Pain

Because of the lengthening of human life expectancy, we can find huge number of patients who are suffered from spinal stenosis, such as central stenosis, lateral recess stenosis and foraminal stenosis. Usually transforaminal block and frequently used catheter techniques show short-term effect only. Therefore, to solve these problems related with stenosis become a big issue for pain management. Epidural neurolysis with steerable catheter technique and percutaneous extraforaminotomy is a promising treatment modality for the patients with sciatica due to disc problem, spinal stenosis, and failed back surgery syndrome. Ligaments of the exit zone (intervertebral foramen) includes internal ligaments, trasforaminal ligaments, and external ligaments, which obliterate the foramen and cause pain by entrapment of spinal nerves with severe adhesion with or without surgery. Resection of these ligaments combined with epidural neurolysis usually improve the persistent symptom. This is a very short and easy procedure comparing with open surgery but quite effective especially for lateral recess and foraminal stenosis. And satisfactory rate after this procedure is over 70% for the indicated patients.

Trans-sacral epidural lumbar decompression is a technique for decompression of herniated disc and mechanical adhesiolysis. This endoscopic procedure enables us to observe neural tissue and disc with ventral approach. We use Holmium-Yag laser for decompression of the disc and use steering catheter for adhesiolysis. Holmium laser has a shallow penetration power which is very safe for the adjacent tissues. We also can perform foraminotomy with catheter. If we select appropriate indications, usually over 85% of patients show excellent or good results.

Plenary Lecture 3:

1 December 2018 (Saturday), 16:30 - 18:00

Dr. Carina Ching-fan LI
Specialist in Anaesthesiology, , Hong Kong Pain Medicine Centre, Hong Kong

Clinical Management of Climbers Pain

It will be presented at the Congress.

Plenary Lecture 3:

1 December 2018 (Saturday), 16:30 - 18:00

Mr. Wai-kin WONG
Chairman, , Hong Kong Multisports Association, Hong Kong

He has represented Hong Kong on many famous world-wide Adventure Race and won numerous awards in Hong Kong and overseas. He is the first local Hong Kong Chinese to participate in the ECO-Challenge World Championship.

Kin also a professional management and adventure education and training consultant, and has taken over the co-ordination of large-scale events of different companies and organization.

He also used his professional strength to assist the charity organization.
For the celebrated of Beijing Olympics in Hong Kong in 2008 and assisted Sichuan in disaster relief. He volunteered with his team call "Run to Beijing 2008", 55 days From Hong Kong to Beijing Bird's Nest stadium, it is 2,500 kilometers away and raised HK$ million dollars for Sichuan victims.

He was worked as an instructor at the Hong Kong Outward Bound School and was a member of the Civil Aid Service Mountain Rescue Team and volunteers from various organization.

In May 2018, he successfully climbed to the highest Mountain in the world, Mount Everest (8,848 meters), and became the 9th Hong Kong resident as well.

Painful Experience of Mt. Everest Summit 2018

It will be presented at the Congress.

Plenary Lecture 4: Osteoarthritis and Chronic Pain

2 December 2018 (Sunday), 09:00 - 10:30

Dr. Gavin Ka-wing LEE
Specialist in Rheumatology, , Hong Kong Sanatorium & Hospital, Hong Kong

Osteoarthritis – Is It an Inflammatory Problem?

It will be presented at the Congress.

Plenary Lecture 4: Osteoarthritis and Chronic Pain

2 December 2018 (Sunday), 09:00 - 10:30

Ms. Mary CHU
Occupational Therapist, Hong Kong

Graduated from The Hong Kong Polytechnic Occupational Therapy Program, Mary started to work as an occupational therapist in public hospitals in the 80's. She had worked in various acute public hospitals and rehabilitation centres in Hong Kong for more than 35 years. She was once a member of the multidisciplinary pain team which started the SHINE program in Queen Mary Hospital. Before she retired, her last position was the Department Manager of Occupational Therapy Department in Queen Mary Hospital and now she is in private practice. Mary has been a council member of the Hong Kong Pain Society for about 10 years. Her special interests lies in the areas of hand rehabilitation, paediatrics, pain management and elderly care. She has been a Certified ISBT Bowen Therapy Practitioner since 2011 and has also been applying Bowen therapy to help relieve pain for acute and chronic pain patients ever since then.

Bowen Therapy for Osteoarthritis

Fascia has caught the attention of the medical world only in the recent decade. It has long been treated as just a sheath of fibrous connective tissue wrapping around muscles, organs and bones. In recent years, a growing number of researchers have started to pay more attention to it and have found that fascia may influence joint stability, motor coordination, musculoskeletal pain and other pathologies. Many manual therapeutic interventions can be found working on fascia, an intriguing system, and they are gaining increasing attention for their possible benefits in pain relief and improvement of body function.

Bowen therapy is one of the many manual therapeutic interventions and it was developed in the mid-1900s by Thomas Ambrose Bowen, a manual therapist from Australia, who used a unique treatment method (Bowen Therapy) involving gentle rolling movement over soft tissues at precise locations on the body. Bowen therapy has specific effect on fascia and it involves a stimulation of intrafascial mechanoreceptors leading to an altered proprioceptive input to the central nervous system to result in tension release and a changed tonus regulation of motor units associated with the tissue. It also encourages hydration of fascia to facilitate better vascular supply and nerve function by gentle stretching, repetitive squeezing and release with pauses in certain moves. Hence, a whole cascade of responses triggered by a sequence of simple moves result in lessening of pain and tension cycles and a return to

more optimal function. It has been used in treating conditions such as chronic musculoskeletal pain, post-trauma and post-surgery pain relief, bronchial conditions, fibromyalgia, headaches and also in assisting emotional and psychological stress.

In the presentation, the roles of fascia in movement and function as well as the the work of Bowen therapy will be introduced. Clinical experience sharing in the application of Bowen Therapy and on the use of the therapy for osteoarthritis will also be presented.

Plenary Lecture 4: Osteoarthritis and Chronic Pain

2 December 2018 (Sunday), 09:00 - 10:30

Dr. Philippe MACAIRE
Director of Anesthesiology and Pain Management Professor, , VinUni University of Health Sciences, Vietnam

Update of Pathophysiology of Chronic Pain after Acute Injury & Preemptive Treatment

It will be presented at the Congress.

Plenary Lecture 4: Osteoarthritis and Chronic Pain

2 December 2018 (Sunday), 09:00 - 10:30

Prof. Antonio MONTERO
Head of the Department of Anesthesiology and Pain Unit, , University Hospital Arnau de Vilanova, Spain

DEGREES AND QUALIFICATIONS

• MD. Anesthesiology Speciality. PhD. Professor of Anesthesiology

CURRENT POSITION(S)

• Head of Department of Anesthesiology, Pain Treatment and Critical Care University Hospital Arnau de Vilanova, Lerida, Spain

• Director Manager of the Pain Clinic University Hospital Arnau de Vilanova, Lerida, Spain

• Director of the University Surgery Department, University of Lerida, Spain

INVESTIGATOR EXPERIENCE

• Speaker in more than 140 meetings

• 45 chapters in books about pain

• 122 articles about pain in international and nationals journals

• 29 studies as principal Investigator

• More than 250 free papers on pain in national and international congresses

New Frontiers in the Management of Post-op Pain (Multimodal Analgesia)

It will be presented at the Congress.

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Concurrent Session 7: MSK US Neck Pain – Cases Discussion & Interactive Session

2 December 2018 (Sunday), 11:00 - 12:30

Dr. Carmen Tze-kwan HO
Consultant, Department of Medicine, Tung Wah Hospital, Hong Kong

MBBS, FHKCP (HK), FHKAM (Med), FRCP (Edin)
Consultant, Queen Mary Hospital/Tung Wah Hospital/Grantham Hospital
Honorary Clinical Associate Professor, LKS Faculty of Medicine, The University of Hong Kong

Carmen graduated from The University of Hong Kong in 1992.
She is currently Consultant Rheumatologist of Queen Mary Hospital and Tung Wah Hospital, Honorary Clinical Associate Professor of LKS Faculty of Medicine, The University of Hong Kong.

Neck Pain from Rheumatologist's Perspective

Neck pain is a common musculoskeletal complaint affecting large population especially in 21st Century. Causes of neck pain include simple biomechanical causes like muscle strain, poor posture to serious medical problem including rheumatoid arthritis, spondyloarthritis and CNS infection. Three cases are discussed in this session in the perspective of a physician.

Concurrent Session 7: MSK US Neck Pain – Cases Discussion & Interactive Session

2 December 2018 (Sunday), 11:00 - 12:30

Dr. Sang-hoon LEE
Medical Director, Pain Department, Madi Pain Management Center, Korea

Dr Lee is the Medical Director of Madi Pain Management Center in his private practice where he practices MSK examination, US guided MSK and spinal interventional care, and C-arm guided interventional spinal care. He has been dedicated in basic medical research in Korea University as a clinical professor and Montpellier university pain diploma course in Seoul.
Dr. Lee graduated from College of Medicine, Jeonbuk National University in 1992 and earned his doctoral degree(PhD) in the same University. He also sub-specialized in Radiology and was board certified with Korean National Board of Radiology.

Dr Lee has authored or co-authored over 20 articles in peer reviewed journals, 1 text book on exercise treatment, and 3 text books on US guided pain intervention. He volunteered or has served on multiple professional committees for the Korea Pain Intervention Society, Korea scientific meeting of International Spine Intervention Society, Korea Musculoskeletal Ultrasound Society, Multidisciplinary Musculoskeletal Symposium Ultrasound on Pain Management, International Symposium of Ultrasound for Regional Anesthesia and Pain Medicine, and International Symposium on Ultrasound Guided Regional Anesthesia and Pain Interventions. Dr. Lee has been an invited lecture to over 150 regional, national, or international presentations and has been featured in regional newspaper segments.

MRI Role in Chronic Spinal Pain

In addition to measurement of disc protrusion and stenosis, MRI plays a significant in evaluating spine by bone marrow signal changes in end plate, vertebral body, and subarticular bone marrow of facet joint. Bone marrow edema (BME) has not been recognized as a significant pain generator or as a primary contributor to disease until recently. Currently, BME is emerging as an important clinical issue because of its contribution to patient symptoms and its capacity to accelerate the progression of certain diseases. The BME in spinal image is no exception. Differential diagnosis through appropriate imaging is vital to case management and may contribute to the prevention or decreased progression of certain pathologies for the clarify the chronic spinal pain generators. We are going to review the BME of the spine according to etiology and locations.

1) Traumatic lesion. It includes end plate fracture, bone bruise, and compression fracture of the vertebral body.

2) Degenerative lesion. It includes Modic change of vertebral end plate and subchondral BME in facet joint OA. Three different types of subchondral signal abnormalities in vertebral body marrow were first described independently by de Roos et al. and Modic et al. Modic changes (MCs) are vertebral endplate and adjacent bone marrow lesions visible by magnetic resonance imaging (MRI). They are quite common in individuals who had the chronic back pain. The importance of MCs has been highlighted in many studies due to their association with lower back pain. Modic I type changes reflect a hypointense signal in T1-weighted (T1W) and hyperintense signal in T2-weighted (T2W) sequences. Fissured endplates with adjacent vascular granulation tissue within the bone marrow were found in such lesions. Modic II type changes show a hyperintense signal in both T1W and T2W sequences. Disruption of the endplates as well as histological fatty replacement of the adjacent bone marrow could be detected in this type of lesion. Modic III type changes reveal a hypointense signal in T1W and T2W sequences. Lesions with sclerotic corresponding to the endplate were observed. MCs have been considered to be a pathological spinal condition that is closely related to many degenerative diseases in the spine. The facet joints(or zygapophysial joints) are a set of synovial, plane joints between the articular processes of two adjacent vertebrae. Facet joint OA involves degenerative changes to multiple tissues including cartilage, bone, capsule and synovial tissues like any other peripheral joints. Cordula Netzer et al. showed that extensive de novo bone formation and macrophage-rich tissue infiltration of subchondral bone marrow as major histopathological characteristics of facet joint osteoarthritis

3) Inflammatory lesion. Rheumatoid arthritis (RA) and axial spondyloarthritis frequently involves the spine. There are numerous studies that have examined the disease in the cervical lesion, particularly atlantoaxial, vertical, and subaxial subluxation. The prevalence of cervical disease in RA has been reported as between 25% and 90% depending on the diagnostic criteria used. In contrast, lumbar lesions caused by RA have received less attention. Lawrence et al first reported the distinct radiological features of lumbar lesions in RA, including disk space narrowing without osteophytes, spondylolisthesis, facet joint erosion, and osteoporosis, with a prevalence of 3%–5%. Facet joints are fibrocartilaginous synovial joints; facet erosion is considered to be caused by synovitis with erosion of cartilage and subchondral bone, in the same manner as a peripheral joint. Although the discovertebral joint is not a synovial joint, the biomechanical structure of endplates is similar to articular cartilage, being predominantly composed of hyaline cartilage.

4) Others: ischemic lesion, inflammatory spondylitis, tumor.

Concurrent Session 7: MSK US Neck Pain – Cases Discussion & Interactive Session

2 December 2018 (Sunday), 11:00 - 12:30

Prof. Dong-eon MOON
Director, Department of Anesthesiology, The Moon Pain Clinic, Korea

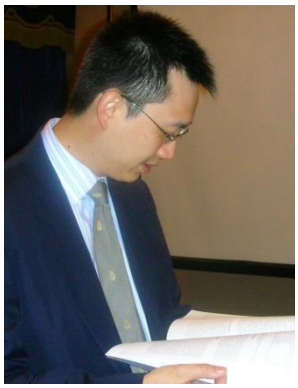
Dr. Moon graduated from the Catholic University of Korea and completed his special training in Korea. He completed postdoctoral training in pain research and interventional pain procedures at the University of Texas and also Robertwood Johnson Medical School, NJ, USA. He is currently an honorary professor of the Catholic University of Korea and a previous president of the Korean Pain Society. He is recognized as one of the most outstanding clinician for the chronic pain intervention including US-guided procedure in Korea. For the last 25 years as a faculty member at the Catholic University of Korea, Dr. Moon has published 28 manuscripts and gave over 65 international lectures and/or workshops about MSK ultrasound or interventional pain procedures. He is currently medical director of a private The Moon Pain Clinic located in the center of Seoul.

US and/or Fluoroscopic -Guided Intervention for Neck Pain

First, I will present a case of occipital headache patients treated with third occipital nerve (TON) radiofrequency neurotomy. And, I am going to review the ultrasound anatomy and technique of TON block and radiofrequency technique under the fluoroscopy-guidance. In addition, I will cover the sonoanatomy of greater occipital nerve block and C2 ganglion. Second, I will talk about the sonoanatomy and US technique of superior cervical ganglion and middle cervical ganglion block and indications. Atlanto-axial joint block may be necessary to confirm the diagnosis and treatment of C1-2 origin pain. Next, I will mention the technique of AAJ injection under fluoroscopic-guidance and also introduce injection technique and fluoroscopic pictures of C2 ganglion. Lastly, I will cover a case of cervical discogenic radicular pain and treatments. I will talk about the US-guided root sleeve injection, dangerous transforaminal epidural block and complication, cervical epidural block and cervical epidural adhesiolysis technique.

Workshop (B): Spasticity Management WS: from Paediatric to Adult

2 December 2018 (Sunday), 11:00 - 12:30



Dr. Windsor MAK

Consultant Neurologist, Department of Medicine, Queen Mary Hospital, Hong Kong

Dr Windsor Mak is consultant neurologist at the Department of Medicine, Queen Mary Hospital, Hong Kong. He graduated from the University of Liverpool and was trained in clinical neurophysiology at National Hospital for Neurology and Neurosurgery, Queen Sqaure, London. Dr Mak was also physician in-charge of Epilepsy Clinic and set up the Acute Stroke Unit of Queen Mary Hospital. Over the last years, he also holds his regular columns on medical humanity at various local newspapers and magazines.

Hemifacial Spasm Management

Hemifacial spasm (HFS) is a common problem, characterized by unilateral involuntary tonic clonic contractions of periorbital muscles, which might progress to involvement of the whole hemi-face. Severe cases of HFS can be disfiguring or result in considerable social embarrassment, reduced quality of life and psychiatric complications.

Hemifacial spasm is largely a clinical diagnosis. The majority of cases are idiopathic, many of which can be attributed to close neurovascular contact at the ipsilateral facial nerve root exit zone. Imaging studies with dedicated MRI sequences are useful for showing such changes, as well as excluding non-benign aetiologies, which are none-the-less rare. Electrophysiological studies also have a role in delineating HFS.

Several systemic medications had been shown to improve the symptoms of HFS, but with modest effects. The mainstay of treatment of HFS is by intermittent botulinum toxin (BoNT) injections to the symptomatic muscles. There are many BoNT preparations on the market. Currently, three BoNT-A are available in the Hospital Authority Drug Formulary: OnabotulinumtoxinA (Botox®), IncobotulinumtoxinA (Xeomin®), AbobotulinumtoxinA (Dysport®). They have similar actions, but with different licensing indications in different countries. Their properties, usage, level of evidence in treatment of HFS (and other movement or neurological disorders) and conversion will be discussed. A brief scheme of BoNT injection for HFS and the treatment limitations and complications will also be presented.

For HFS patients not responding well to BoNT or prefers permanent symptomatic relief, microvascular decompression surgery or doxorubicin chemomyectomy are options to consider.

Workshop (B): Spasticity Management WS: from Paediatric to Adult

2 December 2018 (Sunday), 11:00 - 12:30

Dr. Chun-hung KO
Associate Consultant, Department of Paediatrics and Adolescent Medicine, Caritas Medical Centre, Hong Kong

Dr Chun-hung KO graduated in 1991 from the Chinese University of Hong Kong. He is a Paediatric Neurologist working in Caritas Medical Centre. Dr Ko is the director of the Developmental Disabilities Unit, which is the largest local residential facility for children with severe intellectual deficit and multiple physical disabilities. Dr Ko is also director of the Paediatric Rehabilitation Unit at Caritas Medical Centre, which was established in 2008 to provide short-term intensive in-patient rehabilitation to prepare transition of the child from hospital back to community and school. The service is accredited by the Hong Kong College of Paediatricians to provide full-time Paediatric Neurorehabilitation subspecialty training to Paediatric Neurology trainees. Dr Ko's main clinical and research interests include ultrasound guided neurolysis and botulinum toxin injections, bone health in children with developmental disabilities, movement disorders, and neurometabolic diseases. To date, Dr Ko has published 37 articles in peer reviewed journals and book chapters in the field of Paediatric Neurology and Neurorehabilitation.

Upper Limb Spasticity in Paediatrics

Spasticity and dystonia in the upper limbs are challenging neurological sequelae in childhood cerebral palsy (CP). Together with associated weakness and poor motor control, hypertonicity contributes to significant functional disability to the child with CP. The goals for tone reduction treatment include functional improvement, ease of care, and prevention of secondary pain, contractures and orthopaedic problems. In setting treatment goals, the physician should go beyond ordinary clinical assessment and think in the context of the child's activities at home and school, as well as interests and recreation.

Muscle tone is commonly classified with the modified Asthworth scale, a subjective clinical scale that rates tone from 1 (no hypertonia) to 4 (rigid in flexion and extension). The Tardieu scale is a clinically useful tool in assessing focal spasticity and predict clinical response and the potential gain in range of motion from focal spasticity treatment. Evaluation of the CP child should also include assessment of motor function and performance. Commonly utilized tools include the Manual Ability Classification System (MACS), Functional Independence

Measure for Children (WeeFIM), and the Pediatric Evaluation of Disability Inventory (PEDI).

The objective of treatment in upper limb hypertonicity may include functional improvement and symptomatic relief. In general, treatment of focal hypertonicity may improve hand function in children who are: below age 5 with mild to moderate hypertonicity, have preserved active movement of the impaired limb and good grip strength, being able to participate in intensive movement-based intervention program with supportive family. Symptom management should be targeted in children with moderate to severe hypertonicity, fixed contractures, and those who are able to tolerate adjunct casting or thermoplastic splinting programs.

Focal hypertonicity may be reduced by chemodenervation which interrupts nerve-muscle transmission with an injectable agent. At Caritas Medical Centre, we employ two injection strategies, namely perineural injection of phenol/ ethanol and intramuscular injection of botulinum A toxin (BoNT-A). The utilization and challenges of the two treatment strategies in upper limb hypertoncity will be demonstrated through case illustrations.

Workshop (B): Spasticity Management WS: from Paediatric to Adult

2 December 2018 (Sunday), 11:00 - 12:30

Prof. Leonard LI
Director, Neurological Rehabilitation Centre, Virtus Medical Group, Hong Kong

Dr. Leonard S W Li is currently the Director of Neurological Rehabilitation Centre of Virtus Medical Group, Hong Kong. He graduated from the Medical School of University of New South Wales, Australia in 1983. He received training in Internal Medicine, Neurology and Rehabilitation Medicine in Hong Kong and Sydney, Australia. He worked in the public hospitals in Hong Kong West Cluster for over 25 years before he started his current position in early 2018. For University teaching, he has been taking the position as Honorary Clinical Professor of Department of Medicine of the University of Hong Kong and Adjunct Professor of the Department of Rehabilitation Sciences of Hong Kong Polytechnic University. Internationally, he is the President of World Federation for Neurorehabilitation and President-elect of International Society of Physical and Rehabilitation Medicine. He has published more than 100 papers in the peer-reviewed journals and sits in the Editorial Board of several journals including Neurorehabilitation and Nerve Repair, Journal of Rehabilitation Medicine and Journal of International Society of Physical and Rehabilitation Medicine.

Management of Spasticity of Lower Limb after Stroke

Spasticity after stroke is not uncommon, but treatment is needed only when there are indications, which include pain, interference of function, causing pressure sores or contracture and fitting orthosis. The patterns of spasticity on the lower limbs could be varied from person to person but basically could be one or mixed of the following manifestations:

1. Excessive hip adduction interfering the stability due to spasticity of hip adductor muscles
2. Hyperextended knee on stance phase of gait due to spastic quadriceps
3. Spastic equinovarus deformity on weight bearing due to spasticity of posterior tibialis and Gastrosoleus muscles
4. Clawing of toes due to spasticity of long toe flexors (+/- short flexors)
5. Hyperextension of big toe due to spasticity of Extensor hallucis longus

When the aggravating factors such as arthritic pain, pressure sores, urinary tract infection and faecal impaction are excluded, Botulinum Toxin injection alone or combining with nerve

block would be the treatment of choice nowadays, because oral medications could not provide satisfactory control and have intolerable side effects. Although there is guideline for injection dosage per muscle, yet other factors including severity of spasticity (spasticity score), variation of size of muscle among individuals and previously response after injection should also be taken into consideration. Lastly, appropriate physical and/or occupational therapies are usually needed to achieve the objective(s) for managing the spasticity of an individual.

Workshop (C): Pose Method Running

2 December 2018 (Sunday), 10:30 - 12:30

Mr. Wai-kin WONG
Chairman, , Hong Kong Multisports Association, Hong Kong

He has represented Hong Kong on many famous world-wide Adventure Race and won numerous awards in Hong Kong and overseas. He is the first local Hong Kong Chinese to participate in the ECO-Challenge World Championship.

Kin also a professional management and adventure education and training consultant, and has taken over the co-ordination of large-scale events of different companies and organization.

He also used his professional strength to assist the charity organization.
For the celebrated of Beijing Olympics in Hong Kong in 2008 and assisted Sichuan in disaster relief. He volunteered with his team call "Run to Beijing 2008", 55 days From Hong Kong to Beijing Bird's Nest stadium, it is 2,500 kilometers away and raised HK$ million dollars for Sichuan victims.

He was worked as an instructor at the Hong Kong Outward Bound School and was a member of the Civil Aid Service Mountain Rescue Team and volunteers from various organization.

In May 2018, he successfully climbed to the highest Mountain in the world, Mount Everest (8,848 meters), and became the 9th Hong Kong resident as well.