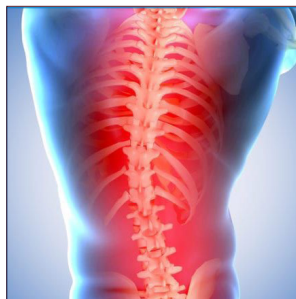
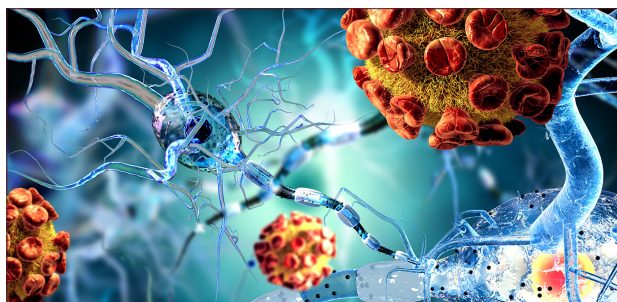

Scientific Tracks & Sessions

March 18, 2022



8th International Conference on
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March 18-19, 2022 | Webinar

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Orientation of L4 Coronal tilt relative to C7 Plumb line as a predictor for Postoperative Coronal Imbalance in patients with Degenerative Lumbar Scoliosis

Jiandang Zhang, Zheng Wang, Pengfei Chi and Cheng Chi

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The design of the study is case-control. To evaluate the impact of preoperative coronal patterns related on the relationship among orientation of L4 coronal tilt and C7 plumb line on immediate postoperative coronal imbalance among Degenerative Lumbar Scoliosis (DLS) patients. Although lumbosacral fractional curves have long been stressed in DLS correction surgery, there is scarcity of literature focusing on preoperative coronal pattern related to the relationship among orientation of L4 coronal tilt and C7 plumb line and its impact on immediate postoperative coronal imbalance among DLS patients. A consecutive series of DLS patients who had deformity correction surgery via posterior-only technique was reviewed. A total of 77 DLS patients who underwent posterior spinal corrective surgery were classified preoperatively based on the relationship between L4 coronal tilt and C7 plumb line: 1. L4 coronally tilts toward C7 plumb line - Coronal consistency pattern, 2. L4 coronally tilts opposite C7 plumb line - Coronal opposition pattern. Global coronal malalignment (GCM) of more than or equal to 20 mm on either side was defined as coronal imbalance. Whole-spine standing radiographs of both pattern groups were evaluated preoperatively and postoperatively. There were 40 patients

with coronal opposition pattern and 37 patients with coronal consistency pattern. When compared to patients with coronal opposition pattern, patients with coronal consistency pattern had lower amount of GCM correction ($P = 0.013$), significantly higher postoperative GCM ($P = 0.028$), and higher incidence of postoperative coronal imbalance is $P = 0.001$. Further logistic regression analysis revealed coronal consistency pattern was related with increased odds of postoperative coronal imbalance (odds ratio: 5.981; 95% confidence interval 2.029–17.633; $P = 0.001$). Following posterior long correction surgery, DLS patients with a preoperative coronal consistency pattern were more likely to experience acute postoperative coronal imbalance..

Speaker Biography

Jiandang Zhang has been a spine expert for more than 15 years. He has been a spine fellow in several top spine centers in the United States for more than 4 years, and has successfully completed a postdoctoral research fellowship. He is creative in spine research and surgery, and has published many peer-reviewed papers. With deep understanding of spine disease, especially in adult Degenerative Scoliosis, he now is at a leading position.

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Spinopelvic Fixation using Iliac Screws for Adult Spinal Deformity: Radiographic and clinical analysis of 100 patients

Hazem Ahmed and Frank Gosse

Medical University Hannover, Germany

Objective: Iliac screws are a biomechanically sound method for deformity correction and stabilization of a long multi-segment lumbar constructs, which are instrumented down to S1. There is disagreement about complications and the effect on the fusion rate. The aim of the study is to analyse the safety and outcome of iliac screws.

Materials and methods: All patients with fusion of more than 4 segments and bilateral S1 and iliac screws were included in this retrospective study. The additional inclusion criteria were postoperative radiographic follow-up with x-ray after 6 months and one year. Screw loosening was determined by the appearance of radiographic halo zone sign around the screw. Bony fusion was investigated by CT scans. Exclusion criteria were spinopelvic fixation for diseases other than deformity

Results: The data of our 100 patients show a low revision rate of 4% for Pseudarthrosis and 2% for prominences of the iliac screw heads. There was no lumbar loss of correction. The incidence of iliac screw loosening was 0.5% and the

incidence of S1 screw loosening was 2%. Compared to the literature, our data showed similarly good results with regard to revision rates, frequency of non-union and correction losses due to the implantation of ilium screws using the free-hand implantation technique. The radiological analysis showed no influence of the screw length on the results.

Conclusion: Iliac screws for adult patients with spinal deformities were shown to be an effective method of spinopelvic fixation with high lumbosacral fusion rates and low complication rates.

Speaker Biography

Hazem Ahmed is the Head of Spine Surgery Department at St. Augustine Hospital Düren and he is a Specialist in orthopedics and trauma surgery. He did his Master's certificate from the German Spine Society Eurospine. His focus of study is Deformity and scoliosis surgery and the complete range of surgical treatment of spinal diseases .

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March 18-19, 2022 | Webinar

Minimally Invasive Approach to Lesions located in Spinal Canal: Tips and tricks

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Introduction: Traditional surgical treatment of spinal cord lesions includes open laminectomy with subsequent resection. We will demonstrate our experience in minimally invasive surgical techniques in a consecutive series of patients undergoing treatment of symptomatic lesions.

Material and methods: 174 patients with spinal lesions in different levels were operated on in two medical centers between 1998 and 2021 and presented with symptoms including pain and neurological deficits. Preoperative localization of spinal lesions was performed using a C-arm X-Ray system. All patients underwent surgical resection using a minimally invasive, unilateral approach under continuous neurophysiological monitoring (SSEP, MEP, and EMG).

Results: In most extra- and intramedullary lesions cases, complete resection of lesions proved on postoperative imaging studies was achieved. There were no complications

associated with surgery. But in some cases, the wrong level opening has happened. In such instances, accurate intraoperative localization was achieved using a 30-degree rigid neurosurgical endoscope. After surgical resection of the lesions, the neurological deficit was entirely resolved in most cases, in 5 cases - remain radicular pain, in 4 patients was seen temporary neurological deterioration, and in 5 others – the neurological deficit was not changed after surgery.

Conclusion: Various spinal lesions can be effectively and safely operated using minimally invasive techniques.

Speaker Biography

Israel Melamed is Chief of Neurosurgery department Soroka University Medical Center and the Faculty of Health Sciences. He has worldwide reputation, saving the lives of infants, young and older people with brain tumors Center.

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March 18-19, 2022 | Webinar

Interventional Radiological Procedures in Spine and Spinal Disorders

Mehmet Fatih Inecikli

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In Interventional Radiology units, Minimally invasive procedures are applied with imaging methods for many spine and spinal disorders. The simplest step is biopsies to reveal the pathological diagnosis of lesions developed due to spine and spinal disorders. In order to perform biopsy procedures successfully, it should be done with imaging methods. Lesions developed in the vertebra itself or in the surrounding structures should be very careful as they develop in critical locations. Spine disorders such as vertebral body compression fracture have been successfully treated in interventional radiology units for many years. Percutaneous vertebroplasty, kyphoplasty, vertebral body radiofrequency ablation are Minimally invasive methods for the treatment of malignant or benign vertebral compression fractures. In addition, facet joint and epidural blockages for reducing or eliminating pain in low back pain are also successfully applied with medications and/or thermal ablation methods. Spinal arteriovenous fistulas and arteriovenous malformations and vertebral hemangiomas are also treated by endovascular methods. Minimally invasive methods such as epidural patch and intradiscal interventional procedures are also successfully applied in interventional radiology. In our Unit, more than a hundred patients with spine and spinal disorders are treated each year. The number of these cases continues

to increase every year. Considering the complication development rates, the success rates of the procedure are quite high thanks to experienced physicians. Using monoplane and biplane angiography devices, computed tomography, ultrasonography and even interventional radiological procedures performed with magnetic resonance imaging under appropriate conditions for spine and spinal disorders, increase the reliability, effectiveness and success of the procedures. It reduces the hospital stay and complication rates of the patients. Thus, it has proven to be a cost effective methods.

Speaker Biography

Mehmet Fatih INEIKLI started to work as a research assistant doctor in Uludag University Faculty of Medicine, Department of Anatomy in August 2004. In December 2005, he continued his education in the Radiology Department of the same University. He has been working as a lecturer since 2014. He is interested in Interventional Radiological procedures. He is still working as a lecturer in the Department of Radiology - Interventional Radiology at Uludag University Faculty of Medicine. He performs vascular, non-vascular and neurovascular interventional procedures. His special interests are spinal interventional procedures such as vertebroplasty, kyphoplasty, facet joint and epidural blockages and vertebral radiofrequency ablation. He has articles and citations published in national and international journals that he contribute in the field of Interventional Radiology and Radiology.

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Notes:

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March 18-19, 2022 | Webinar

Rehabilitation of Traumatic Spinal Cord Injury patients: A brief overview

Sucheta Saha

Institute of Neurosciences Kolkata, India

Traumatic Spinal Cord Injury (SCI) has devastating consequences on the individual, the family & the society as a whole. Global incidence of SCI is 3.6 to 95.4 per million and in India the average annual incidence is 15000 with a prevalence of 0.15 million. Among the predominant causes of SCI, automobile accidents come first, followed by fall & acts of violence. SCI can lead a person to permanent disability. Rehabilitation in a person with SCI is extremely important to help them reach their optimal physical, psychological, social, vocational & functional potential. Rehabilitation should start earliest after the injury. Early intervention by Rehabilitation physicians can prevent many complications, like- pressure ulcers, joint contractures etc. A multidisciplinary team consisting of Physiotherapists, Occupational therapists, Speech, language & swallow pathologists, Rehabilitation Psychologists, Rehabilitation Nurses, Medical social workers & Vocational counsellors, Orthotists & Prosthetists, works as a unit under the guidance of a Rehabilitation specialist for achieving the Rehabilitation goals of a traumatic SCI person. Standard neurological examination is performed according to the protocol of 'International Standards of Neurological Classifications of Spinal Cord Injury Patients'. Ten key

muscles & 28 key dermatomes are examined & patients are classified according to 'American Spinal Injury Association (ASIA) Impairment Scale [AIS]'. Prognosis depends on a number of factors, but most important being the completeness of the spinal cord injury. A person with incomplete SCI usually did better than a person with complete SCI. Nevertheless, Rehabilitation measures can serve to improve the quality of life of spinal cord injured patients if initiated early in the course after the injury. .

Speaker Biography

Sucheta Saha has completed her MBBS in the year 2007 from Calcutta University, India. She has done a Diploma in Medical Radiotherapy (DMRT) from West Bengal University of Health Sciences in 2009 and MD in Physical Medicine & Rehabilitation in 2015. In MD she secured Gold Medal. In 2014, she received the prestigious 'Indian Association of Physical Medicine & Rehabilitation Gold Medal' for best research paper. She has also undergone observership in Palliative care in AIIMS, New Delhi. At present, she is working in the Institute of Neurosciences Kolkata, India as a consultant rehabilitation physician. She has published 6 publications in indexed journals. She did her Fellowship in Interventional Pain Management, recently. She is a life member of the Indian Association of Physical Medicine & Rehabilitation (IAPMR) and Indian Federation of Neurorehabilitation (IFNR).

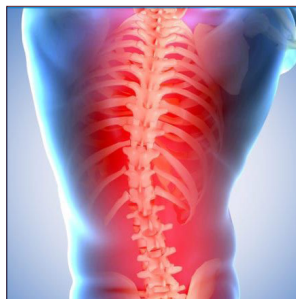
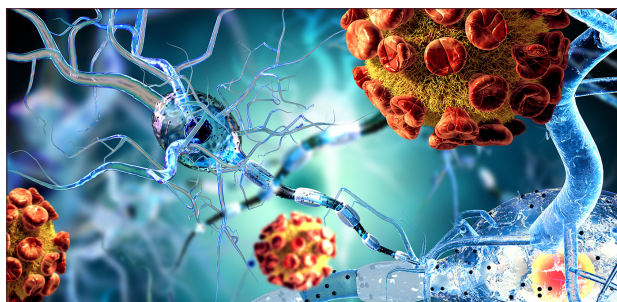
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Notes:

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March 19, 2022



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March 18-19, 2022 | Webinar

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March 18-19, 2022 | Webinar

A case series: Neurolymphomatosis of the optic nerve, median nerve, L4 spinal nerve root and cauda equina in patients with B-cell malignancies

Safaa Hassan Ali Al Azawi

Hamad Medical Corporation Doha, Qatar

Background: Neurolymphomatosis is rare. Neoplastic lymphocytes are found in nerve roots, invade nerves (cranial or peripheral), or other related structures in patients with haematological malignancy. It is a separate entity to central nervous system lymphoma. Neurolymphomatosis has most likely been described in relationship with B-cell non-Hodgkin lymphoma. Neurolymphomatosis has never been described in the context of Burkitt lymphoma and post-renal transplant setting.

Case Reports: Between 2012 and 2017, four cases of Neurolymphomatosis involving the median nerve, optic nerve, nerve root, and cauda equina in patients with Burkitt lymphoma were reported for the first time in the Arabian Gulf countries and neighbouring Arab states (one Asian, and the other three Arab nationals).

Conclusions: Neurolymphomatosis is uncommon and can be difficult to detect by biopsy but reliably confirmed by combined imaging techniques. Prior treatment with high dose

of dexamethasone may suppress 18F-fluorodeoxyglucose (FDG) activity and reduce the sensitivity of Positron Emission Tomography/Computed Tomography (PET/CT). The prognosis for Neurolymphomatosis is generally poor, however high-dose methotrexate, as well as high-dose chemotherapy and autologous stem cell transplantation, may be successful treatments.

Speaker Biography

Safaa Al Azawi graduated from Basrah University Medical College in 1979 and Arab board medicine in 1991 and MRCP on 2005. Join Hematology Oncology Department National Center for Cancer Care and Research (NCCCR) Hamad Medical Corporation in 2001 and appointed as faculty member at Weill Corner Medical College in Qatar in 2006 as Clinical Instructor had attended Hematology training in Heidelberg University Hospital including Royal Free Hospital in London. During the term his main interest is in B-Cell malignancy. He has many publications in peer review journals and Faculty member involved in clinical teaching of Arab Board candidates in General Medicine and Hematology Fellowship program.

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March 18-19, 2022 | Webinar

Literature review: Holocordic Spinal Subdural Hematoma: A challenging management in emergency

Iaquinandì Andrea, Novegno Federica, De Luna Adolfo and Salvati Maurizio

University of Rome, Italy

Purpose: Spinal subdural hematoma (SSH) is a rare entity and the etiology has yet to be elucidated. Holocordic spinal hematomas represent an exception. The management of these patients remains controversial, due to their extremely poor prognosis and their rarity.

Material and Methods: Electronic databases, such as MEDLINE, Scopus and PubMed, were analyzed for, searching Holocordic spinal subdural hematoma studies published until April 2021. Case series, Case reports, and literature review were included.

Results: We found a total amount of only 7 cases describing a Holocordic SSH reported in the literature so far and we added the description of 1 case we managed at our institution, reaching a total amount of 8 cases. We discussed clinical and radiological features, etiological

hypothesis, treatment strategies and prognostic factors.

Conclusion: The correct treatment of Holocordic hematomas is not yet well standardized. Complete evacuation is not amenable, but surgical evacuation based on MRI imaging has shown to be the most effective therapeutic choice, crucial in means of prognosis, even if performed with some delay.

Speaker Biography

Andrea Iaquinandì graduated in 2014 at the University of Rome "La Sapienza". In 2015 he obtained the qualification for the medical profession. In 2020 he discussed his master's thesis in Neurosurgery at the University of Rome "Tor Vergata". Since 2021 he has been working as a MD at the Department of Neurosurgery Polyclinic "Tor Vergata" in Rome.

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 Notes:

8th International Conference on
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March 18-19, 2022 | Webinar

Transverse Process Fractures: A Clinical Series and Coronal Injury of the Spine

Güliz Demirelli Gültekin

Tuzla State Hospital, Turkey

Transverse process fractures (TPFs) in trauma patients are frequently diagnosed by using computed tomography and results in limitation of motion and severe pain. However, there is no standard of care. Hence, these fractures can be treated by excessive measures or inadequately treated. In this study, treatment and diagnosis of transverse process fractures are examined and concluded that;

Transverse process fractures can be treated quickly and successfully with nonsteroidal anti-inflammatory drugs, flexible support corsets, muscle relaxants, and early mobilization after excluding any associated organ injuries or other spinal injuries. TPFs most typically occur during backward falls or blows to the back, commonly low-energy injuries. This trauma mechanism is described as a “coronal injury of the spine”. “When TPF is found by the emergency medical team without any other spinal injury in a trauma patient, urogenital, abdominal and thoracic organ injury examinations should be carried out, especially in cases of 4 or more TPFs. Because Transverse Processes are junction points, these systems are linked via muscles and fascia. MRI is unnecessary, in cases in which TPFs are detected on CT imaging without another spinal injury.

TPFs develop after coronal injury of the spine, commonly

during blunt abdominal trauma in High Energy Injuries or in Low Energy Injuries. Both mechanisms cause fascia and muscle injury around the Transverse Processes and causes in edema, inflammation, and hemorrhage. These injuries are treated effectively with muscle relaxants, NSAIDs, and a mucosal protective agent for 1 week; flexible support corset with steel stays for 2-6 weeks; early patient mobilization; and sick notes for 2-6 weeks are all to promote rest. The flexible support corset can be used for muscle immobilization. The case should be treated as a stabilized spinal injury, and its treatment should be the same as a myofascial injury rather than a spinal injury.

Speaker Biography

Güliz Demirelli Gültekin is working as a neurosurgeon in Tuzla State Hospital. Previously she worked in İstanbul Medeniyet University Health Ministration Göztepe Educational and research Hospital Neurosurgery Department (2016 -2021), Düzce State Hospital, Neurosurgeon (2013-2016), Kocaeli University Neurosurgery Department, assistant and education of Neurosurgical speciality (2006-2012).

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Notes:

8th International Conference on
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March 18-19, 2022 | Webinar

Waiting for Scoliosis surgery: A greater problem after COVID-19; how we can face it?

Allan Hiroshi A Ono

University of Sao Paulo, Brazil


By the end of 2019, a global pandemic virus strikes the world and until the present moment, the issue is not solved. The COVID-19 caused millions of hospitalizations, deaths, and collapsed entire health care systems around the globe. All kinds of elective surgeries were postponed or suspended, for some conditions such as pediatric spinal deformities like Adolescent Idiopathic Scoliosis (AIS) this delay can cause severe progression of the disease leading to poorer results in surgical treatment. As vaccination progresses, surgeons and health care managers must

prepare for a safe and responsible return searching for ways to reduce this collateral damage.

Speaker Biography

Allan H. Ono is an Orthopedic Spine Surgeon, in University of São Paulo – Hospital das Clinics the biggest Hospital of the whole Latin America, is Member of Brazilian Spine Society, And North American Spine Society. He is also a scientific director of Spinal Deformity Nucleus of Hospital Sirio Libanes, Sao Paulo. Allan Ono has published 23 articles with more than 89 citations on Google Scholar. And is reviewer of Major publications in area.

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March 18-19, 2022 | Webinar

Back Pain should not be treated using Antibiotics

Peter Fritzell

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Antibiotic resistance is described by WHO as one of the biggest future threats against human health, why new indications for using Ab should be seriously questioned if there is lack of scientific evidence. Some researchers have suggested that long time (three months) broad spectrum antibiotics (Ab) could be used in treating patients with chronic low back pain (>3 months) if they also have Modic changes type1 on MRI in vertebral bodies. The argument is that MC1 (inflammation) is a possible sign of a “low grade sub-clinical” infection.

These researchers argue that various bacteria, above all the common skin bacterium *Cutibacterium acnes*, could spread hematogenously to discs, where they trigger an inflammatory reaction causing MC1 and irritate nociceptive nerve endings, thus inducing pain. Other studies haven't found this connection or have been cautious in their conclusions. As LBP, with or without leg pain, is one of the most common human disorders, it is probable that Ab will be tried in many patients with LBP, MC1 or not. These MRI-changes are also found in patients without back pain why the causation with LBP many times is doubtful. Research groups in Denmark, Norway and Sweden have independently conducted studies from 3 different

perspectives. The three studies were all published during 2019 in different international peer reviewed journals. The Swedish study concluded that bacteria in discs found during surgery for LDH most probably is due to contamination. The Danish study found that patients with MC1, after 13 years FU, had not more back pain compared with patients without MC1. The Norwegian multicenter study found no relevant clinical effect using Ab compared with placebo.

Conclusion: Ab should not be used for back/leg pain unless there is a clinically relevant infection in the disc/vertebra, i.e. discitis/spondylitis

Speaker Biography

Peter Fritzell is an associate professor at Uppsala University, Sweden. He has over 50 publications that have been cited over 5000 times, and his publication H-index is 28. He has been working as a register manager for the national Swedish quality register for over 20 years, Swespine, with approximately 160 000 patients registered and who are followed up after spine surgery at 1-2-5-10 years. He is engaged in education and research at Futurum Academy, Jonkoping and at Spine Clinic RKC in Stockholm. He is, besides clinical research, engaged in register research and health economics, i.e. cost-effectiveness.

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Percutaneous Endoscopic Transforaminal Lumbar Interbody Fusion: a novel technique Sentinel Pinning with Lateral Retractor for protection of exiting root

Yi-Hung Huang

Chia Yi Christian Hospital & National Cheng Kung University Hospital, Taiwan

The Endoscopic Spine Surgery (ESS) is rapidly developed and ESS combined with TLIF (endoTLIF) is new trend due to the least traumatization. The safe zone of foramen (Kambin triangle) is so limited, therefore implanting a cage into disc space away from the exiting root or dura injury is a major challenge. A novel technique was created by us "sentinel pinning with lateral retractor" to protect the exiting root as application of tunnel protector and implanted fixed size cage. The complete procedures were well described and effectiveness was surveyed.

Methods and material: We inserted contralateral percutaneous pedicle screws firstly, inserted the guide-pin to the SAP, performed foraminoplasty, discectomy and endplate preparing and inserted the sentinel pin docking at inferolateral border of the cranial vertebral body under the monitor of endoscope and fluoroscope. We harvested synthetic bone graft mixing with bone marrow aspirated from vertebral body and implanted a fixed size cage through the safe quadrangular space created by sentinel pin and lateral retractor. We secured the screws and rods finally. Demographics of patients, operation time and blood loss were recorded. Preoperative and postoperative Visual

Analogue Scale of back and legs and ODI scores were quantitatively assessed at 1, 3, 6, and 12 months after surgery.

Results: To Dec.2019, a total of 35 patients and 45 levels (mean age 62.2 y/o) were evaluated. The overall mean VAS score for back pain improved statically significantly, and mean ODI scores from 50.9 to 3.6 ($P < 0.01$) postoperatively was significantly improved with a mean follow-up of 15 months There was no postoperative permanent exiting root injury, iatrogenic durotomy and other neurogenic damage.

Conclusions: Postoperative scores for endo-TLIF by this novel technique significantly improved and no disabled complications. The procedure could be considered as a safe and effective TLIF.

Speaker Biography

Yi-Hung Huang is Director of the Department of Orthopedic Surgery and Assistant professor at Chia Yi Christian Hospital. He is also a Medical Association member at Taiwan society of endoscopic spine surgery (TSESS) and Pacific and Asian Society of Minimally invasive Spine Surgery (PASMIS).

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March 18-19, 2022 | Webinar

Cervical Spondylotic Myelopathy; an innovative approach to guide the surgeon

Bikram Keshari Kar

AIIMS, Raipur, India

Introduction: Cervical Spondylotic Myelopathy (CSM) refers to the impaired function of spinal cord caused by degenerative changes of discs and facet joints in the cervical spine. When natural history of the disease is analyzed, it is difficult to say that surgical treatment is the gold standard treatment modality for this condition due to lack of sufficient randomized control trial.

Methods: We could follow 53 cases (M-36, F-17) of CSM between the age group of 20 to 70 years, most of them who had been operated in last 5 years with an average follow up of 2.8 years, have been analyzed. Decompression with or without stabilization was the procedure in all cases. All cases of nurotic's grade 1- 4 had been operated. New scores (odishi scores) have been calculated after subjective questionnaires and objective assessment.

Results: 5 out of 53 (10%) had a deterioration of sign and symptom. Out of them 4 cases is nurotic's grade 5 pre study. 20 (37.7%) cases admitted that they feel much better relative

to pre op status but there was little/no improvement of signs. 28 (52%) cases showed improvement of signs and symptoms.

Summary: With the above findings, CSM cases are to be treated surgically if there is substantial compression of spinal cord and signal changes in MRI. Proper counselling is an essential part of treatment. Disease in advanced stage may not improve, may worsen subjected to the preexisting comorbidity and wholesome care given to patient.

Speaker Biography

Bikram keshari kar done his Master of surgery at SCB Medical college, Utkal University. He is a member in Indian orthopaedic Association, Association of Spine Surgeons of India, North American spine society, Chhattisgarh orthopedic Association and Central Zone of Indian Orthopedic Association. He published more than 25 papers and attended nearly 60 seminars and conferences.

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Notes:

Cinnamon ingredients accelerate Calcium deposition during Osteogenesis; an experimental research on Adipose-derived Stem cells

Abdorrahim Absalan¹, Seyed Alireza Mesbah-Namin² and Taki Tiraihi²

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Background and aim: Osteoporosis is a geriatric disorder affecting both long and wide bone. Using complementary medicine it is possible to prevent bone fractures in geriatrics. Using regenerative medicine the treatment or prevention of bone fractures would be possible. Human adipose-derived stem cell (hADSC) is a good source for regenerative medicine purposes. We aimed to explore the effect of eugenol and cinnamaldehyde, two active ingredients of cinnamon, on the calcium deposition during osteogenic differentiation of hADSC.

Methods: hADSC obtained from pregnant women and kept in proliferation culture medium (DMEM+10% fetal bovine serum plus 0.1% antibiotics) to have enough cells for following steps. Certifications of hADSC were done using negative CD45 and CD56 but positive CD73, CD90 and CD105. The best concentrations of cinnamaldehyde and eugenol were justified from toxicology tests. Ultimately, the cells were treated with 2.5 $\mu\text{mol/mL}$ cinnamaldehyde and 0.1 $\mu\text{g/mL}$ eugenol during Osteogenesis differentiation of hADSCs and the results were compared with 0.01% DMSO-treated (-T), eugenol-T or cinnamaldehyde-T and untreated control cells. Mean \pm SD of calcium depositions after alizarin red staining and densitometry quantification with Image-J software were compared statistically (significant level=0.05).

Results: Mean \pm SD of calcium depositions using densitometry method were equal as: untreated control group= 46.18 \pm 2.07, DMSO-T (0.01%)=30.95 \pm 2.36, cinnamaldehyde-T (2.5 $\mu\text{mol/mL}$)=46.54 \pm 3.0 and eugenol-T (0.1 $\mu\text{g/mL}$)=64.5 \pm 2.88 (ANOVA p-value=0.000). Except cinnamaldehyde-T cells compared

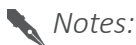
untreated cells (p=1.000) other groups had meaningful p-values (p<0.05) for double comparisons using Tukey-HSD method. DMSO reduced significantly calcium deposition rate in hADSCs differentiated to the osteocytes. As DMSO was the solvent of cinnamaldehyde and eugenol in cell culture, after normalization, the pure effect of cinnamaldehyde was the significant increased rate of calcification.

Conclusion: Eugenol and cinnamaldehyde bot increase the calcium depositions in Osteogenesis model developed in hADSC. Eugenol is more potent than cinnamaldehyde but bot can be used as probable natural ingredients for Osteoporosis treatment. Anyway, this should be proven using animal models and clinical trials.

Speaker Biography

Abdorrahim Absalan is born in Ahwaz city, in southwestern Iran in 1978. He has trained in different courses in different universities, research centers, and clinical laboratories in Iran; BSc (Clinical laboratories sciences), MSc, and Ph.D. (Clinical Biochemistry). He was one of the best national Iranian students in 2011, who was rewarded by the Iranian president because of his scientific activities. His research has been focused on the cellular and molecular targets of herbal ingredients, computational drug discovery, and trace elements. He says that "I have interesting results when I worked with the cell-line and primary cells; but, after finishing my Ph.D., investigation tools were not in my hand to do deeper studies to reach a definite therapeutic product". He is trying to leave the university (a boring atmosphere for creative people) and work in his company to develop diagnostic kits and products using R&D activities.

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Notes:

8th International Conference on
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March 18-19, 2022 | Webinar

Work-related risk factors and the prevalence of Low Back Pain in low wage workers: results from a cross-sectional study

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University of Gondar, Ethiopia

Background: Low back pain is the most commonly identified musculoskeletal problem and it is a serious burden on individuals, social care systems and health systems with indirect cost being predominant. It results in poor service, disability, low quality of life and sickness absences in working places. The issues of Low back pain and its risk factors in hotel housekeepers are unknown in Ethiopia. Therefore, this study was aimed to identify determinants of back pain and investigate the prevalence among hotel industries' housekeepers in Gondar, Ethiopia.

Methods: Institutional related cross-sectional studies were conducted from March to May, 2017. A systematic random sampling approach was applied to select 422 study participants, and the data was collected using standardized Nordic questionnaire for the analysis of musculoskeletal symptoms. Using SPSS version 20, the bivariate and multivariable binary logistic regression analyses were performed. Significance level was found at 95% CI and p value 0.05.

Results: In Gondar town the prevalence of Low back pain among hotel housekeepers was 58.1% (95% CI: 53.6, 62.8%). Being temporary employee (AOR: 3.22), type of job that requires reaching/over stretching (AOR: 2.93), working in a job which requires repetitive bending (AOR: 1.97)

and making > 30 beds/day (AOR: 3.19) were found to be significant risk factors for Low back pain. Even though, hotel housekeepers who were satisfied in their current job were less affected by Low back pain (AOR: 0.49).

Conclusion: A high proportion of hotel housekeepers in this study found they had Low back pain. Employment pattern, rest break taken, repetitive bending, reaching/over stretching, training related to health, job satisfaction, and safety and numbers of beds making are the factors related with Low back pain. As a result, ergonomic measures focusing on adjusting the arrangement of workstation, rest breaks and altering some equipment are potentially important targets for reducing the problem.

Speaker Biography

Sintayehu Daba Wami is an assistant professor and a faculty member in the Environmental and Occupational Health and Safety department, Institute of public health, at the University of Gondar, Ethiopia. He has completed his master's program in Master of Public Health in Occupational Health and Safety from the University of Gondar. As PI or co-investigator, He carried out several successful research projects and published more than 25 articles in reputable peer-reviewed journals. Currently, He is a Ph.D. candidate in Rehabilitation Science at Queen's University, Canada. His research interest focuses on tailoring and evaluating interprofessional rehabilitation programs for patients with chronic Low back pain in the Ethiopian context.

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