



Video Presentation



5th World Congress on

SPINE AND SPINAL DISORDERS

October 16-17, 2019 | Rome, Italy

Role of multidisciplinary team in educating Spinal Cord Injury patients and their families at Inpatient Rehabilitation Care

Vijay Janagama

SuVitas Holistic Healthcare Pvt Ltd, India

Statement of the Problem: Comprehensive rehabilitation aims to restore strength, functional independence and quality of life in patients suffering from Spinal Cord Injuries. A clear understanding of the baseline state, prognosis and realistic goals are the fundamentals for a successful comprehensive rehabilitation care program. Educating the patient and family members will ensure better cooperation and long-term adherence to the advised care plan. Multiple systemic reviews have emphasized the role of patient or family member in being actively involved to yield improved rehabilitation outcomes. To improve adherence to advised care plan by educating the patient and family, we have initiated family meetings with multidisciplinary rehabilitation team in the inpatient rehabilitation care facility in the cities of Hyderabad and Bengaluru in India.

Methods: Family meetings with the multidisciplinary team are a vital and integral part of inpatient rehabilitation care in India. There is an initial baseline meeting to ensure that patient or family members are in completely aware of baseline status, prognosis and realistic outcomes mapped as short term and long term goals. All the care plan interventions are regularly evaluated to achieve the set goals and are regularly updated to the patient and family members. One conclusion meeting is scheduled before the discharge, to ensure that the patient or the family is better equipped to handle the activities at home and ensures the continuity of care at home.

Results: Patients and families who have participated regularly in family meetings driven by multi-disciplinary rehabilitation team had an improved adherence to the advised care plan, better outcomes and well-positioned to continue the care after going home.

Conclusions: Given multiple scientific studies validating the importance of family role during inpatient rehabilitation, we believe educating spinal cord injury patients and their family by multi-disciplinary rehabilitation team will improve adherence to an advised rehabilitation care plan, enable better outcomes and ensure better continuity of the care at home.

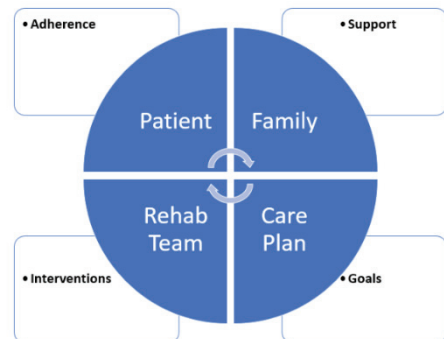


Figure 1 Patient and Family Education by Multidisciplinary Team in Family Meetings

Biography

Vijay Janagama is a Health Promotion Specialist & Healthcare Technologist with more than 15 years of experience across industries and roles. He is a Diabetologist by profession. Also a certified wellness practitioner, he has been one of the visionaries who conceptualized and established India's first transition care facility, SuVitas in 2015 as Founding Medical Director. Instrumental in developing the protocols-based treatment methodology of SuVitas Care Plan, He steers SuVitas's thrust in research, technology, innovation and development of new initiatives Patient-Centric Rehabilitation Care Models. An ardent champion advocating the benefits of transition care for developing a superior healthcare ecosystem for the country, he has presented seminal research work in Post-Hospitalization Care at several prestigious academic platforms including World Stroke Congress, World Congress of Neurology and World Congress of NeuroRehabilitation.

e: vijay.janagama@suvitas.com



Poster





e-Poster



5th World Congress on

SPINE AND SPINAL DISORDERS

October 16-17, 2019 | Rome, Italy

A case report of Spinal Epidural Abscess treated conservatively

Abhishek Chaturvedi

MGM Medical College and Hospital, India

Introduction: Musculoskeletal Tuberculosis is known for its ability to present in various forms and guises at different sites. Tubercular Spinal Epidural Abscess is an uncommon infectious entity. Its presence without osseous involvement may be considered an extremely rare scenario.

Case Report: We present a rare case of Tubercular Spinal Epidural Abscess in a 17 year old female shown to have Multisegmental Spinal Epidural Abscess extending from L2-S3 vertebral level. The patient made an uneventful recovery following antitubercular chemotherapy.

Discussion: From the MRI findings described from previously reported cases and our case, an iso intensity signal on T2 weighted and/or stir images is one of the discriminating features of Tubercular Spinal Epidural Abscess from other Bacterial Spinal Epidural Abscess. Our observation was improving signs and symptoms despite non-surgical management. It is a rare entity by itself.

Biography

Abhishek Chaturvedi is a young orthopaedic surgeon from Mumbai, India. His papers have been accepted at multiple international conferences recently being Geriatric Orthopedic Society in India. He has been involved in patient healthcare care for a decade and passion is in the field of orthopaedic surgery. He has completed his graduate studies from Government Medical College, Mumbai and is currently working as an orthopaedic resident. He has taken part in various camps for Rotaract Club during his undergraduate time and is also involved in various camps being held at present hospital.

e: abhishekc101@gmail.com

5th World Congress on

SPINE AND SPINAL DISORDERS

October 16-17, 2019 | Rome, Italy

Is Corona Mortis, a vascular anomaly?

Dzmitry Valchkevich

GrSMU, Belarus

Statement of Problem: the human arterial system is highly variable. A large number of researches on the arterial variability, including obturator artery, evidences this.

Classical manuals indicate that obturator artery is a permanent branch of the internal iliac. In the special literature, on the contrary, a large variability of the beginning of obturator artery is noted, which varies from 29% to 48% and is explained by the late development of this vessel.

The data obtained by routine dissection of pelvic vessels of newborns and adults show that the obturator artery arises from the internal iliac artery in most of cases (52%). The other sources of obturator artery are superior gluteal (18.2%), inferior gluteal (9.1%), internal pudendal (5%) and iliolumbar (2%) arteries.

Of particular interest are the variants of beginning of obturator artery from the external iliac artery system and its topography relative to the femoral ring. The obturator artery can start from external iliac (Fig. 1a) or inferior epigastric (Fig. 1b) (up to 30% according to the literature) as well as from femoral artery. The obturator artery can cross the femoral ring, bend around it along the lateral or upper medial edges.

These variants should be taken into account by surgeons during hernia surgery, when there is a possibility of damage to the artery. The beginning of obturator artery from the inferior epigastric artery is called “corona mortis”, which was found in 27.2% during our study. Some researchers note, that “corona mortis” simulates a well-developed anastomosis between the pubic branch of obturator artery and the obturator branch of inferior epigastric.

Conclusion & Significance: Because of variability of the obturator artery detected during the study, its topography changes also and consequently, the blood supply to a number of anatomical structures. “Corona Mortis” is seen in every third patient.

Biography

Dzmitry Valchkevich graduated from the Medical University in Grodno (Belarus) in 2001. He has received the degree of Candidate of Medical Sciences (PhD) in 2005 for the study of 'Anatomical features of the arteries of pelvis in human' (2005). Has worked as an Assistant Professor in the Department of Human Anatomy from 2003 to 2007. Since 2007, an Associate Professor of Human Anatomy. In 2013-2015, he was the Head of the Department of Human Anatomy. During last 5 years, has about 80 scientific and educational publications, 4 manuals for students on human anatomy. The teaching interests include human anatomy, physiology and histology.

e: donn7@tut.by



Fig: 1 - obturator artery, 2 - external iliac artery, 3 - inferior epigastric artery



Accepted Abstracts



5th World Congress on

SPINE AND SPINAL DISORDERS

October 16-17, 2019 | Rome, Italy

Development and psychometric evaluation of a fatigability index for full-time wheelchair users with Spinal Cord Injury

Alina I. Palimaru¹, William E. Cunningham², Marcus Dillistone³, Arturo Vargas-Bustamante², Honghu Liu² and Ron D. Hays²

¹RAND Corporation, USA

²University of California, Los Angeles (UCLA), USA

³Royal Society of Medicine, Marylebone, London, UK

The Problem: A prevalent symptom associated with Spinal Cord Injury (SCI) is fatigue, which is a perceived lack of physical and/or mental energy. About 25% of individuals with SCI report fatigue severe enough to affect daily functioning and well-being. The purpose of this study is to develop and evaluate psychometrically a self-reported instrument assessing Physical Fatigability (PF) and Mental Fatigability (MF) in adults with SCI.

Methodology: Cross-sectional study among community-dwelling adults in the United States. The dimensional structure was assessed by confirmatory factor analysis. The relationship between item responses and fatigability was measured with item response theory (graded response model). Reliability was measured with test information functions. Differential item functioning was evaluated with Wald Chi-Square tests and the weighted area between the curves. Construct validity was assessed using the known group's method.

Findings: An 82-item pool was developed from prior qualitative research and consultations with rehabilitation experts. A non-probability sample (N=464) was used to evaluate the psychometric properties of the PF and MF scales. The item pool was reduced to 75 based on factor loadings and R². Both scales are primarily unidimensional, despite moderate multidimensionality. There is good discrimination overall: 18 PF items and 26 MF items have high or very high discrimination power (slopes > 1.35). The measurement precision in the theta range -2.0 to 2.5 is the equivalent of 0.94 reliability for PF and 0.91 for MF. For both measures, F statistics P values were significant at P<.01, and means were higher for those with paraplegia vs quadriplegia and for those with incomplete paraplegia.

Conclusion & Significance: The Fatigability Index is the first instrument designed to assess physical and mental fatigability in adults with SCI. The index highlights the causes of fatigue and areas requiring immediate intervention. Development of short-forms and further research on representative samples are necessary.

e: palimaru@rand.org

5th World Congress on

SPINE AND SPINAL DISORDERS

October 16-17, 2019 | Rome, Italy

The role of film/video in Patient-Centered Rehabilitation

Alina I. Palimaru¹ and Marcus Dillistone²

¹RAND Corporation, USA

²Royal Society of Medicine, UK

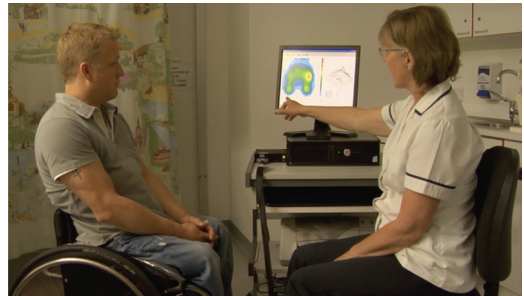
The Problem: A prevalent symptom associated with Spinal Cord Injury (SCI) is fatigue, which is a perceived lack of physical and/or mental energy. About 25% of individuals with SCI report fatigue severe enough to affect daily functioning and well-being. The purpose of this study is to develop and evaluate psychometrically a self-reported instrument assessing Physical Fatigability (PF) and Mental Fatigability (MF) in adults with SCI.

Methodology: Cross-sectional study among community-dwelling adults in the United States. The dimensional structure was assessed by confirmatory factor analysis. The relationship between item responses and fatigability was measured with item response theory (graded response model). Reliability was measured with test information functions. Differential item functioning was evaluated with Wald Chi-Square tests and the weighted area between the curves. Construct validity was assessed using the known group's method.

Findings: An 82-item pool was developed from prior qualitative research and consultations with rehabilitation experts. A non-probability sample (N=464) was used to evaluate the psychometric properties of the PF and MF scales. The item pool was reduced to 75 based on factor loadings and R². Both scales are primarily unidimensional, despite moderate multidimensionality. There is good discrimination overall: 18 PF items and 26 MF items have high or very high discrimination power (slopes > 1.35). The measurement precision in the theta range -2.0 to 2.5 is the equivalent of 0.94 reliability for PF and 0.91 for MF. For both measures, F statistics P values were significant at P<.01 and means were higher for those with paraplegia vs quadriplegia and for those with incomplete paraplegia.

Conclusion & Significance: The Fatigability Index is the first instrument designed to assess physical and mental fatigability in adults with SCI. The index highlights the causes of fatigue and areas requiring immediate intervention. Development of short-forms and further research on representative samples are necessary.

e: palimaru@rand.org



5th World Congress on

SPINE AND SPINAL DISORDERS

October 16-17, 2019 | Rome, Italy

Cluneal Nerve Trigger Point Entrapment Syndrome and Radiofrequency Treatment

Martin Knight¹, Indu Karangoda^{2,3}, Rahim Nadeem Ahmed⁴ and James Inklebarger⁵

¹The Spinal Foundation, UK

²Dartford and Gravesham NHS Trust, UK

³Darent Valley Hospital, UK

⁴Croydon University Hospital NHS Trust, UK

⁵The London College of Osteopathic Medicine, UK

Statement of the Problem: Cluneal Nerve Trigger Point Irritation (CNTPI) symptomatology and aetiology are poorly recognized and too often treated with open surgery where conservative measures fail. The purpose of this study is to describe the distribution of symptoms shown in Figure 1, which can mimic sciatica and to present a diagnostic and treatment pathway and outcomes thereto.

Methodology & Theoretical Orientation: A prospective study of the treatment outcomes based upon the proposed diagnostic protocol deployed in 33 consecutive patients with CNTPI was independently analyzed 2-5 years following treatment shown in Figure 2.

Conclusion & Significance: The diagnostic pathway differentiates the pain from CNTPI from spinal disorders, facet joint or sacro-iliac joint pain and provides a promising treatment alternative to that of open surgery. The proposed treatment is based upon correction of pelvic attitude and radiofrequency ablation of the “trigger points” and offers encouraging outcomes.



Figure 1 CNTPI Symptom distribution

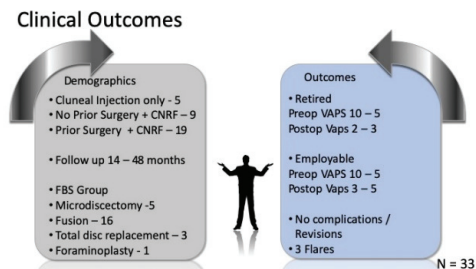


Figure 2 Clinical Demographics & Outcomes

e: mknight@spinal-foundation.org

5th World Congress on

SPINE AND SPINAL DISORDERS

October 16-17, 2019 | Rome, Italy

The Tweezers as a final solution for the assessment of Angle Trunk Rotation - Reliability study compared with the Gold Standard Tool

Michele Romano

Istituto scientifico Italiano Colonna Vertebrale Milano, Italy

Introduction: The measurement of the Angle Trunk Rotation (ATR) is one of the essential assessments for the treatment of scoliosis patients and an adolescent group screening. The ATR is classically measured using a specific tool called scoliometer. In recent years many digital smartphone applications that replicate the scoliometer's measurement are available. Many scientific papers compared both tools showed excellent reliability. Some plastic supports have been developed to guaranty the stability of the smartphone but the shape of these tools is not always adequate to the size of all smartphones.

Objectives: To assess the correlation of a new, simple and very cheap tool applicable directly to any smartphone compared with the classic scoliometer. To assess the inter-rater reliability of ATR measurements, performed with both tools.

Method: Two simple tweezers have been applied to the lateral aspect of the smartphone. They allow creating symmetrical support that avoids contact between the smartphone and the spinous apophyses. No patients were involved in the study because enough scientific papers have already been published, verifying the reliability of the scoliometer and the digital applications of smartphones. The subjects involved were fellow physiotherapists who participated in a training course. 25 blind measurements were performed by two physiotherapists. Statistical analysis was performed by a third operator, using Pearson's Correlation Index and Bland-Altman plot.

Results and Discussion: The results showed excellent consistency of measurements using both tools. The Pearson Correlation Index between a standard scoliometer and the adapted scoliometer was 0,805504. The intra-operator reliability was 0,86532. Using tweezers to adapt a smartphone and making it suitable to measure the ATR of a scoliotic trunk is a procedure having two specific advantages: The tweezers are very cheap and can be applied to any type of smartphone.

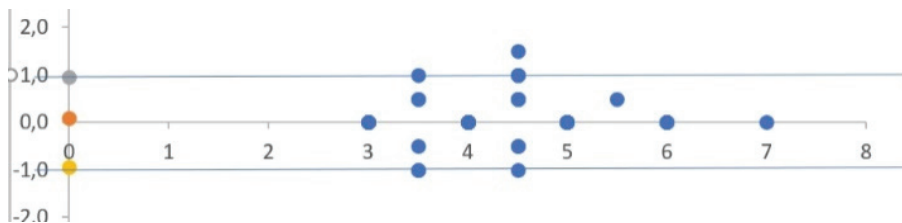


Figure 1 Bland and Altman plot showing an excellent intra-rater reliability using scoliometer and adapted phone

e: michele.romano@isico.it

5th World Congress on

SPINE AND SPINAL DISORDERS

October 16-17, 2019 | Rome, Italy

Minimally Invasive Spinal Surgery with percutaneous stabilization for Lumbosacral Spine Degenerative Diseases: A retrospective database of 40 consecutive treated cases and literature review

Daniele Francesco Millimaggi¹, Alessandro Ricci¹ and Valerio di Norcia²

¹San Salvatore City Hospital, L'Aquila, Italy

²Policlinico Umberto I, University of Rome "Sapienza", Rome, Italy

Literature review. To report our results about Minimally Invasive Transforaminal Lumbar Interbody Fusion (MI-TLIF) with bilateral pedicle screw fixation, in patients with Degenerative Lumbosacral Spine Disease. To describe the indications, surgical technique and results of a consecutive series of 40 patients undergone MI-TLIF. MI-TLIF with bilateral pedicle screw fixation is an increasing approach to degenerative lumbosacral spine disease. Despite the limited number of clinical studies, published data suggest tremendous potential advantages of this technique. Forty patients with radiological findings of Degenerative Lumbosacral Spine Disease were undergone MI-TLIF between July 2012 and January 2015. Clinical outcomes were assessed employing the Oswestry Disability Index (ODI) and Health Survey Scoring (SF36) before surgery, at first-year follow-up. Furthermore, the following parameters were retrospectively reviewed: age, sex, working activity, body mass index (BMI), type of degenerative disease, number of levels of fusion, operative time, blood loss, length of hospital stay. Average operative time was of 230 minutes, mean estimated blood loss 170 mL, average length of hospital stay 5 days. The ODI improved from a score of 59, preoperatively, to post-operative score of 20 at first-year follow-up. Average SF36 score increased from 36 to 54 (Physical Health) and from 29 to 50 (Mental Health) at first-year outcome evaluation. MI-TLIF with bilateral pedicle screw fixation is an excellent choice for selected patients suffering from symptomatic Degenerative Lumbosacral Spine Disease, especially secondary to recurrent disk herniations.

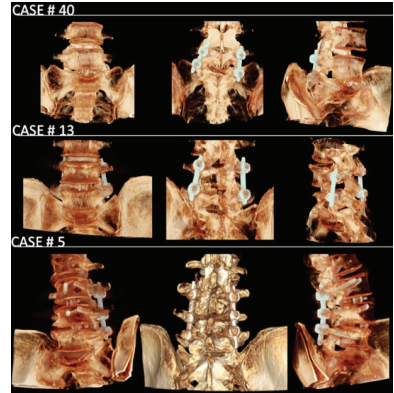


Figure 1 Representative post-operative 3D CT performed on postoperative day 2

e: df.millimaggi@gmail.com

5th World Congress on

SPINE AND SPINAL DISORDERS

October 16-17, 2019 | Rome, Italy

Physical activity as a non-pharmacologic treatment to be prescribed in osteoarthritis

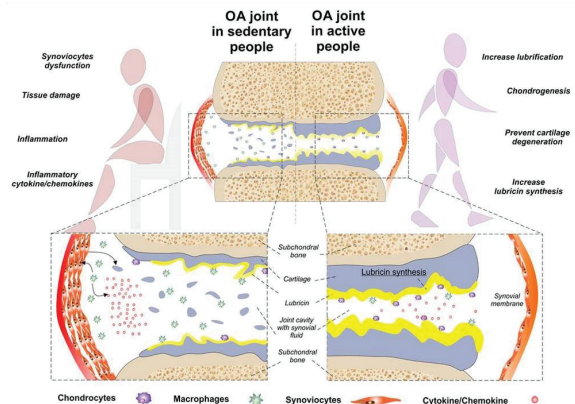
Giuseppe Musumeci
University of Catania, Italy

Purpose: The purpose of this study was to investigate the influence of Moderate Physical Activity (MPA) on the expression of osteoarthritis (OA)-related (IL-1, IL-6, TNF- α , MMP-13) and anti-inflammatory and chondroprotective (IL-4, IL-10, lubricin) biomarkers in the synovium of an OA-induced rat model. The MPA-based approach may support joint tribology and synovial lubrication, leading to improved joint function and pain relief. In addition, in pathologic conditions, synoviocytes type A secrete cathepsins, MMPs and pro-inflammatory cytokines/chemokines into the extracellular matrix, triggering tissue damage.

Methods: A total of 32 rats were divided into four groups: Control rats (Group 1); rats performing MPA (Group 2); anterior cruciate ligament transection (ACLT)-rats with OA (Group 3); and, ACLT-rats performing MPA (Group 4). Early OA was induced through the anterior cruciate ligament transection (ACLT) technique. Analyses were performed using Hematoxylin & Eosin staining, histomorphometry and immunohistochemistry.

Results: In Group 3, OA biomarkers were significantly increased, whereas, IL-4, IL-10, and lubricin were significantly lower than in the other groups. The results from MPA experimental group (Group 4) highlighted the decreased expression of OA-related biomarkers (IL-1, TNF- α , MMP-13) and the increased expression of chondroprotective ones (IL-4, IL-10 and lubricin).

Conclusions: We hypothesize that MPA might partake in rescuing Type B Synoviocyte Dysfunction at the early stages of OA, delaying the progression of the disease and finally postponing the need for joint replacement.



e: g.musumeci@unict.it

5th World Congress on

SPINE AND SPINAL DISORDERS

October 16-17, 2019 | Rome, Italy

Prevalence of Low Back Pain among female Health Sciences students

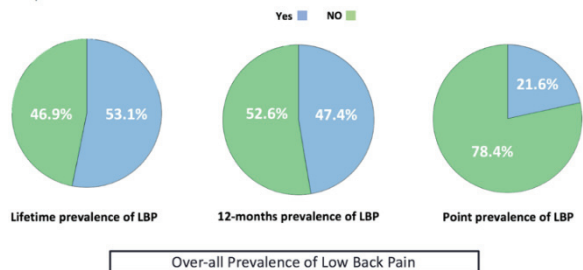
Sarah Nasser AlJasser, Zhou AlHedyan, Fahad AlShayhan and Munir Saadeddin
King Khalid University Hospital, KSA

Low back pain (LBP) is a physical and economical dilemma that individuals from all age groups encounter. Interestingly, LBP was considered as the leading cause of years lived with disability globally. A meta-analysis of the prevalence of low back pain in adolescents revealed that the mean lifetime prevalence was 39.9%. Anderson defined LBP as pain restricted to the area between the lower borders of the 12th rib and gluteal folds. The commonest variety of back pain is LBP, arising in 60-80% of people at a certain point in their lives.

Methodology: A Quantitative cross-sectional study was conducted among seven hundred and forty-seven female undergraduates from five health-sciences colleges during the academic year 2016-2017. A self-administered questionnaire was conducted and included 4 sections: demographic characteristics, risk factors, Nordic Musculoskeletal Questionnaire and Oswestry Disability Scale.

Results: Mean age of participants $20.3 \pm (1.5)$ years. 35.8% of students were physically active. The lifetime prevalence of LBP among female health science undergraduates was 53.1%, the 12-months prevalence was 47.4% and point prevalence was 21.6%. Medical college students reported significantly higher lifetime prevalence (64.3%). Physical activity was not associated with a point prevalence of LBP. BMI of more than 25 was associated insignificantly with increased risk of LBP (OR 1.13%; CI 95% 0.74-1.73; $p=0.568$). Feeling discomfort on bed was significantly associated with LBP (OR 2.49; 95%CI 1.74-3.65; $p=> 0.001$) Setting on comfortable college furniture was significantly related to decreased risk of LBP (OR 0.56%; 95%CI 0.38-0.82; $p= 0.003$). Psychological factors such as being overwhelmed and feeling sad were associated with LBP. According to Oswestry disability scale, the majority of students who have LBP are having a minimal disability due to LBP.

Conclusion: This study has shown a high prevalence of LBP among future health care providers. Female medical students are at higher risk for developing LBP in comparison to other health science students.



e: s.aljasser666@gmail.com

5th World Congress on

SPINE AND SPINAL DISORDERS

October 16-17, 2019 | Rome, Italy

Factors related to the time of intraoperative awareness in Scoliosis surgery

Aguado Barrena Obdulia, Milena Bermúdez Bermúdez
"Hermanos Ameijeiras" Clínico-Surgical Hospital, Cuba

Objectives: To identify factors related to the time of intraoperative awareness in scoliosis surgery.

Materials and Methods: A descriptive, prospective, observational study from January 2012 to December 2014, made up of all patients undergoing scoliosis was used the statistical technique of frequency distribution analysis.

Results: 43 selected patients, mean age 18.8 years, female (28 patients; 65.1%) sex, as many had a bodyweight between 53 and 60 kg (60.5%), EI (88.4%) classified as class I (ASA) and with respect to operating time, the average was 399.0 minutes, with a standard deviation 105.8 minutes (mean 6.6 hours, 1.8 hours standard deviation). Intraoperative time was between 25 and 49 minutes, average 37.4 minutes (standard deviation of 6.1 minutes) and a median of 38.0. With intraoperative hypothermia wake time (mean 42.0 minutes median 41.5 minutes), it was found to be greater than those presented hypothermia (mean 32.5 minutes median 33.0 minutes). With acidemia (mean 41.4 minutes median 43.0 min) without Acidemia (mean 34.0 minutes median also). Statistically significant differences ($p = 0.00$) were found in this variable.

Conclusion: It was found that young female patients, class II (ASA), had longer surgical times. Hypothermia, acidemia, related to prolonged intraoperative time.

e: virgo@infomed.sld.cu

5th World Congress on

SPINE AND SPINAL DISORDERS

October 16-17, 2019 | Rome, Italy

Comparative study between the attitudes of Feeder Stream and First Year medical students toward the importance of understanding classical Greek and Latin in the development of an anatomical and medical vocabulary

Shiby Stephens

Cardiff University, UK

First Year medical student often finds newly introduced anatomical and medical terminologies challenging. This might be because 75% of terminologies are derived from classical languages such as Greek and Latin, languages that are rarely taught nowadays in schools as part of their regular curriculum. Another factor that might contribute to difficulty in acquiring these terminologies could be decreased time the students spend in the dissecting room, this might impair students' knowledge and understanding of anatomical relationships thus impacting the acquisition of terminologies. Until now, there have been no studies that have compared the attitudes of First Year medical students with feeder stream students (students who join the mainstream medical course following a degree scheme) towards the importance of understanding classical Greek and Latin during their medical training. To assess these attitudes, the study involved both these cohorts into a medical course at Cardiff University.

Following ethical approval from the School Research Ethical committee, these students were provided with a brief questionnaire that was designed in accordance with the principles of Thurstone and Chave (1951). 28 feeder stream students participated (100%) in the survey (Medical Pharmacology n=16, Medical Science n=14). One hundred and eighty First Year students (60%) responded. The initial hypothesis was that being taught in the same environment, both these cohorts will have a positive attitude towards the importance of classical Greek and Latin. Contrary to the hypothesis, the First Year students had a positive attitude while feeder stream students had a negative attitude.

As these feeder stream students belong to Second Year of their studies, they have either dissected animals or have attended anatomy station based practicals during their initial years, it could be suggested that they became well-versed with anatomical and medical terminologies. It was concluded that these feeder stream students are likely to have become accomplished in the origins of medical terminologies without formal instruction.

e: stephenssg@cardiff.ac.uk