



**Joint Event**

11<sup>th</sup> International Conference on

**OSTEOPOROSIS, ARTHRITIS & MUSCULOSKELETAL DISORDERS**

**&**

**10<sup>th</sup> INTERNATIONAL CONFERENCE ON ARTHROPLASTY**

December 04-05, 2017 | Madrid, Spain

# Posters

*Osteoporosis and Arthroplasty 2017*

## Joint Event

11<sup>th</sup> International Conference on

# OSTEOPOROSIS, ARTHRITIS & MUSCULOSKELETAL DISORDERS &

# 10<sup>th</sup> INTERNATIONAL CONFERENCE ON ARTHROPLASTY

December 04-05, 2017 | Madrid, Spain

## Morphological evaluation of Blumensaat's line in the quadrant method

Toshihiro Seki

Yamaguchi University, Japan

**Introduction:** For evaluation of bone hole position on the femur side after reconstructive surgery for knee anterior cruciate ligament (ACL), it is common to perform Quadrant method reported by Bernard et al. using 3D-CT. Quadrant method is based on Blumensaat's line, but it is reported that the form of Blumensaat's line has variation. We report on the form of Blumensaat's line at 3D-CT photographed after ACL surgery.

**Methods:** Patients who underwent ACL reconstruction at our department and related hospitals from April 2014 to August 2016 were 106 cases and 107 knees. The breakdown was 60 males and 46 females. Among them, 99 subjects and 100 knees, under 50 years of age, with no progress of arthropathy change due to existing meniscal lesion etc., were targeted. Shooting 3D-CT was done within two weeks after surgery. According to the Quadrant method, the femoral condyle part was halved along the femoral axis, the intercondylar was confirmed from the inside, and the Blumensaat's line was confirmed. I investigated the variation straight type (ST), small hill type (S), and large hill type (L) which are reported by Iriuchishima et al.

**Results:** In all cases, there were ST 38 cases (38%), S 22 cases (22%), L 40 cases (40%).

**Conclusion:** Iriuchishima et al., investigated the shape of Blumensaat's line at cadaver and reported that variation exists in addition to straight type. In this case we conducted a similar survey using 3D-CT in cases under 50 years of age, but it was almost the same rate. When using the Quadrant method Blumensaat's line has many forms other than the straight type, so it was considered necessary to evaluate the femoral bone hole carefully.

### Recent Publications

1. Bernard M et al. (1997) Femoral insertion of the ACL. Radiographic quadrant method. American Journal of Knee Surgery 10(1):14-21.
2. Ferretti M et al. (1999) Osseous landmarks of the femoral attachment of the anterior cruciate ligament: an anatomic study. Arthroscopy 23(11):1218-1225.
3. Iriuchishoima T (2016) Blumensaat's line is not always straight: morphological variations of the lateral wall of the femoral intercondylar notch. KSSTA 24(9):2752-2757.
4. Jaron P (2015) Radiographic anatomy of the native anterior cruciate ligament: a systematic review. HSS Journal 11(2): 154-165
5. Farrow LD (2008) Radiographic classification of the femoral intercondylar notch posterolateral rim. Arthroscopy 23:1218-1225

### Biography

Toshihiro Seki has his expertise in evaluation and passion in improving the ACL reconstruction. He is doing research with enthusiasm for improving the technology of ACL reconstruction techniques. He is the leading expert in Knee Sports in Yamaguchi Prefecture, Japan. This research is part of the result of research at Yamaguchi University Hospital.

joint.seki@gmail.com

### Notes:

## Joint Event

11<sup>th</sup> International Conference on

# OSTEOPOROSIS, ARTHRITIS & MUSCULOSKELETAL DISORDERS &

# 10<sup>th</sup> INTERNATIONAL CONFERENCE ON ARTHROPLASTY

December 04-05, 2017 | Madrid, Spain

## Association between tibial coronal alignment in total knee arthroplasty and patient satisfaction: Using a 3D-matching evaluation method

**Kazushige Seki**

Yamaguchi University, Japan

**Purpose:** The aim of the present study was to evaluate tibial coronal alignment using 3D-reconstructed computed tomography (CT) scans and assess the relationship between total knee arthroplasty (TKA) alignment and clinical outcome.

**Methods:** A total of 53 consecutive patients who underwent primary TKA were included in the present study. For the assessment of TKA component positioning, we used a 3D matching evaluation method. In this method, preoperative planning was accomplished using 3D templates. We also performed CT scans of the lower limbs both pre- and postoperatively. The tibial component setting was located and evaluated after surgery using evaluation software made in LEXI Company. For clinical outcome scoring, the Japanese Knee Osteoarthritis Measure (JKOM) was used at 6-months and 1- and 2-years postoperatively. Patients were asked to grade their level of satisfaction for each question (i.e. 'very dissatisfied', 'dissatisfied', 'neutral', 'satisfied' or 'very satisfied').

**The patients were divided into two groups:** A neutral alignment group (n = 42; preoperative alignment  $\pm 2^\circ$ ), and an outlier group (n = 11; preoperative alignment  $> 2^\circ$ ). We compared these two groups for JKOM level of satisfaction and investigated the correlations between alignment variables and JKOM. Results: There was a significant difference in the number of patients who answered 'satisfied' or 'very satisfied' between the two groups (88.1% in the neutral alignment group vs. 36.4% in the outlier group,  $p = 0.0003$ ). There was also a significant difference in JKOM scores between the two groups ( $24.4 \pm 17.3$  in the neutral alignment group vs.  $34.9 \pm 26.8$  in the outlier group,  $p < 0.0227$ ). The Pearson correlation coefficient between tibial coronal alignment and JKOM score was significant ( $r = 0.2994$ ,  $p = 0.0294$ ). Conclusion: Significantly inferior outcomes were detected in the tibial alignment outlier group.

### Recent Publications

1. Akai M (2005) An outcome measure for Japanese people with knee osteoarthritis. *The Journal of Rheumatology*; 32:1524-1532.
2. Bourne RB (2010) Patient satisfaction after total knee arthroplasty: who is satisfied and who is not? *Clin Orthop Relat Res*; 468:57-63.
3. Hirschmann MT (2011) The position and orientation of total knee replacement components: a comparison of conventional radiographs, transverse 2D-CT slices and 3D-CT reconstruction. *J Bone Joint Surg Br*; 93:629-633
4. Matsuda S (2013) Postoperative Alignment and ROM Affect Patient Satisfaction After TKA. *Clin Orthop Relat Res*; 471:127-133.
5. Anderl W (2016) Patient-specific instrumentation improved mechanical alignment, while early clinical outcome was comparable to conventional instrumentation in TKA. *Knee Surg Sports Traumatol Arthrosc*; 24:102- 111.

### Biography

Kazushige Seki is an expert in knee surgery. He has a strong passion for improving postoperative performance of total knee arthroplasty (TKA). His research on the usefulness combination of three-dimensional template and portable navigation system in TKA has been presented at the several international conferences. And now, he is researching the relationship between patient satisfaction and postoperative alignment of TKA. It is a useful study to improve the postoperative performance of TKA.

### Notes:

sk0105@yamaguchi-u.ac.jp

**Joint Event**

11<sup>th</sup> International Conference on

**OSTEOPOROSIS, ARTHRITIS & MUSCULOSKELETAL DISORDERS**

**&**

**10<sup>th</sup> INTERNATIONAL CONFERENCE ON ARTHROPLASTY**

December 04-05, 2017 | Madrid, Spain

**Assessment of osteoporotic alterations in Type 2 Diabetes: A retrospective study**

**Nagano C P<sup>1</sup>, Munhoz L<sup>1</sup>, Cortes A R<sup>1</sup>, Lourenco S V<sup>1</sup>, Anagnostou F<sup>2</sup> and Arita E S<sup>1</sup>**

<sup>1</sup>University of São Paulo, Brazil

<sup>2</sup>Paris Diderot University, France

**Aim:** The present study aimed to analyze the influence of Type 2 diabetes on bone mineral density (BMD) and panoramic radiomorphometry in postmenopausal females, comparing with results from nondiabetic postmenopausal females.

**Methods:** A total of 228 postmenopausal females (mean age: 59.51 ± 11.08 years) were included in this study. Demographics, T scores and Z scores from peripheral dual X-ray absorptiometry (DXA) and mandibular cortical index (MCI) from panoramic radiographs were assessed. Mean comparison between results for diabetics and non-diabetics was carried out with the Student's t-test. In addition, non-parametric correlations between MCI and DXA results were carried out with Spearman's test, at a level of significance of 5%.

**Results:** Mean Z score values were significantly higher in diabetics than in non-diabetics (p 5 0.001). T and Z score values were also significantly correlated with MCI (r 5 0.428, p 5 0.001, and r 5 0.356, p 5 0.022, respectively).

**Conclusions:** Within the limitations of this study, the present results suggest that Type 2 diabetes might increase BMD in postmenopausal females.

**Biography**

Nagano C P has been graduated from Dental School of the University of Sao Paulo (FOUSP), as a Dentist, with Master degree in Oral Pathology & Stomatology (FOUSP), including specialization in Implantology (Military Hospital of Sao Paulo). She served as a Dentist at the Stomatology Service, Hospital das Clínicas, Medical School of the University of Sao Paulo (HC-FMUSP). Currently working in her Doctorate degree in Oral Diagnosis at the Dental School (FOUSP), with interuniversity exchange doctorate at University of Paris VII (Paris Diderot), where she has been developing her research.

cibele.nagano@usp.br

**Notes:**

**Joint Event**

11<sup>th</sup> International Conference on

**OSTEOPOROSIS, ARTHRITIS & MUSCULOSKELETAL DISORDERS**

**&**

**10<sup>th</sup> INTERNATIONAL CONFERENCE ON ARTHROPLASTY**

December 04-05, 2017 | Madrid, Spain

**Effect of estrogen deficiency on loaded and non-loaded area of temporomandibular or knee joint**

Hoon Joo Yang<sup>1</sup>, Yeju Seong<sup>2</sup> and Soon Jung Hwang<sup>1,2,3</sup>

<sup>1</sup>Seoul National University Dental Hospital, South Korea

<sup>2</sup>Dental Research Institute, Seoul National University, South Korea

<sup>3</sup>School of Dentistry, Seoul National University, South Korea

Low level of estrogen has regarded as a main contributing factor of temporomandibular joint (TMJ) arthritis in young women patients. However, there is lack of evidence about the occurrence of arthritis in knee joint (KJ) related with estrogen deficiency. This study aimed to investigate the effect of estrogen deficiency on the loaded and non-loaded bone area of TMJ or KJ. Total of 21 SD rats were allocated into three groups, the sham surgery group, the ovariectomy (OVX) group and the estrogen replacement group following OVX. At 12 weeks after OVX, all groups were scarified and changes in the bone area of KJ and TMJ were analyzed using micro-CT. We analyzed the bone areas in TMJ and KJ, which were compartmentalized into three areas on loaded, middle and non-loaded area. Bone mineral density (BMD) and three-dimensional micro-CT parameters were compared between TMJ and KJ. Non-loaded area of TMJ showed significant decreases of bone volume fraction (BV/TV) and BMD in OVX rats, which was recovered with the estrogen replacement. However, there was no difference in BV and BMD either in loaded area of TMJ or in all areas of KJ in both loaded and non-loaded OVX rats. Middle area of TMJ in OVX rats showed a significant decrease in BV/TV, but no difference in BMD. These results revealed that OVX-mediated estrogen deficiency led to a significant decrease of bone formation and quality in non-loaded bone area of TMJ and no influence on bone area of KJ, suggesting that TMJ is more sensitive to estrogen deficiency.

**Biography**

Hoon Joo Yang has been graduated from School of Dentistry, Seoul National University as Dentist, with the specialties including Oral and Maxillofacial Surgery from Seoul National University Dental Hospital. Later she received her PhD from Seoul National University on the subject of 'Progressive condylar resorption' and started to work at Seoul National University Dental Hospital. Presently she has been working in Seoul.

didgnswn@hanmail.net

**Notes:**

## Joint Event

11<sup>th</sup> International Conference on

# OSTEOPOROSIS, ARTHRITIS & MUSCULOSKELETAL DISORDERS &

## 10<sup>th</sup> INTERNATIONAL CONFERENCE ON ARTHROPLASTY

December 04-05, 2017 | Madrid, Spain

### Correlation between the bone densities jaws, condyle mandibular and cervical vertebrae C1, C2, C3 through computed tomography with multislice CT (Hounsfield scale). Osteoporosis local or systemic

Elza Maria Carneiro Mendes Ferreira dos Santos, Vanessa de Araujo Faria, Mayara Cheade and Plauto A C Watanabe  
University of São Paulo, Brazil

**Background:** Osteoporosis is a metabolic bone disease that also affects the bones of the jaws and causes an increase in porosity that reflects the integration of quality and bone mineral density, hindering rehabilitation treatment with implants. The gold standard diagnostic tool is bone densitometry by dual energy x-ray absorptiometry (DXA), computed tomography but also proves very effective in assessing bone quality through Hounsfield scale.

**Objectives:** In this study we propose to study the density of jaws and based cervical vertebrae of the Hounsfield scale, found in dental routine scans and correlate their values to identify localized or systemic osteoporosis.

**Materials & Methods:** In this study, we evaluated the bone density of condyle mandibular, regions of the teeth in the maxilla 13, 23, 36.46 mandible and cervical vertebrae C1, C2, C3, through Hounsfield scale CT scans, and correlated their values for diagnosis of osteoporosis localized or systemic. We evaluated 79 multi-slice CT of patients who underwent both examinations of the maxilla and mandible, with 35 men and 44 women over 40 years of age. We used software to analyze and efilm investigated regions.

**Results:** The results show that 83.54% have density below 200 HU from over 03 sites studied, classifying them as systemic osteoporosis, and 16.46% have localized osteoporosis. In females 9.1% have localized osteoporosis and 90.9% systemic osteoporosis. Have the male presents 25.71% and 74.29% localized osteoporosis and systemic osteoporosis respectively.

**Conclusion:** Therefore we can conclude that it is possible to correlate the values of bone density found in dental sites in dental CT, with the cervical vertebrae, the diagnosis of localized or systemic osteoporosis.

### Biography

Elza Maria Carneiro Mendes Ferreira dos Santos has been graduated from Herminio Ometto Foundation as Doctor of Denta; Medicine, with the specialties including Dental Radiology, from the University of Sao Paulo, in 1990. Since then, she's been working at a Clinic Center of Diagnostic by Imaging. Presently, she is attending Master Course in Image Science and Diagnosis at USP, Medical School of Ribeirao Preto-SP, investigating the field of Practice Dentistry.

santoselzacarneiro@gmail.com

### Notes:

## Joint Event

11<sup>th</sup> International Conference on

# OSTEOPOROSIS, ARTHRITIS & MUSCULOSKELETAL DISORDERS &

# 10<sup>th</sup> INTERNATIONAL CONFERENCE ON ARTHROPLASTY

December 04-05, 2017 | Madrid, Spain

## Dietary antioxidants and risk of clinical knee osteoarthritis: Is there a protective role?

Eman M Alissa, Layla S Alzughaibi, Zuhair M Marzouki and Mohammed-Salleh M Ardawi  
King Abdulaziz University, Saudi Arabia

**Background:** Osteoarthritis (OA) is a degenerative disease of the joints that occurs commonly in female older population with the knee being the most frequently affected site of all joints. Excess oxidative damage have been associated with the pathogenesis of OA. Therefore, we aimed to explore the associations between intake levels of dietary antioxidants micronutrients and radiographic severity of osteoarthritis in females with and without clinical knee OA.

**Method:** One hundred female participants, aged above 40 years, with symptomatic primary knee OA were matched for age with 100 apparently healthy females in a case-control study. The study subjects were consecutively recruited from the Orthopaedics Department, Faculty of Medicine, King Abdulaziz University Hospital, Jeddah, Saudi Arabia. All subjects underwent weight-bearing bilateral anteroposterior radiography of the knee. All radiographs were graded using the Kellgren-Lawrence grading system (grades 0-4). The symptomatic severity of OA was assessed by the validated version of Western Ontario and McMaster Universities (WOMAC) index. Dietary intake was assessed using a pre-validated semi-quantitative food frequency questionnaire.

**Results:** Patients with knee OA had significantly lower intake levels of dietary vitamin C ( $p < 0.01$ ), vitamin A, zinc, copper and selenium ( $p < 0.0001$  in all) than their control counterparts. Additionally, WOMAC index is significantly and negatively associated with intake levels of vitamin C, vitamin A, zinc, copper and selenium.

**Conclusions:** These results indicate that dietary antioxidants micronutrients may have an important role in the progression of knee OA. While our findings warrant further confirmation, they highlight the potential of diet to modify the risk of osteoarthritis.

### Biography

Eman M Alissa received her PhD in 2005 from the School of Biomedical and Molecular Sciences, University of Surrey, UK. Her thesis was involving micronutrient status in cardiovascular diseases. In 2015, she became the Head of the Elemental Spectroscopy Unit, in King Fahad Medical Research Center, King Abdulaziz University, Saudi Arabia. She is presently a Professor at the Clinical Biochemistry Department, Faculty of Medicine, KAU. Her research interests are: Trace elements and antioxidant vitamins status in chronic diseases, epidemiology, and aging and chronic diseases. She has published around 60 articles and attended several conferences where she presented her research work results.

Em\_alissa@yahoo.com

### Notes:



**Joint Event**

11<sup>th</sup> International Conference on

**OSTEOPOROSIS, ARTHRITIS & MUSCULOSKELETAL DISORDERS**  
&

**10<sup>th</sup> INTERNATIONAL CONFERENCE ON ARTHROPLASTY**

December 04-05, 2017 | Madrid, Spain

**Serum 25-hydroxyvitamin D, bone turnover markers and bone mineral density in postmenopausal women with hip fractures**

Jixing Fan<sup>1</sup> and Liang He<sup>2</sup>

<sup>1</sup>Tsinghua University, China

<sup>2</sup>Beijing Jishuitan Hospital, China

**Background:** Low levels of serum 25 (OH) D and high levels of bone turnover markers were associated with increased risk of fracture. We aimed to explore the relationship between serum 25 (OH)D, bone turnover markers and bone mineral density in senile postmenopausal women with hip fracture in North China (Beijing).

**Material and Methods:** 277 patients with hip fractures and 272 patients without fractures in postmenopausal women were included in this study. The serum 25 (OH)D, bone formation markers, including N-terminal extension propeptide of type-I collagen (P1NP), alkaline phosphatase (ALP) and osteocalcin (OC), bone resorption markers, including C-terminal telopeptide of type-I collagen (CTX-1), and bone mineral density were collected and analyzed.

**Results:** The univariate analysis showed that fracture-group patients had significantly lower levels of 25 (OH)D (12.33 VS 23.92,  $P<0.001$ ). Serum CTX-1, P1NP and OC were significantly higher in patients with fractures compared with patients without fractures (0.67 VS 0.46, 53.57 VS 39.79 and 19.24 VS 15.64,  $P<0.001$ ). Women in the fracture group had significantly lower femoral neck and total hip BMD than patients without fracture (0.694 VS 0.726 and 0.789 VS 0.828,  $P<0.001$ ). After adjustment for age and other confounding factors, multivariable logistic regression analysis showed that serum 25 (OH)D (OR=0.878, 95%CI=0.855~0.902,  $p<0.001$ ), CTX-1 (OR=4.884, 95%CI=2.419~9.861,  $p<0.001$ ) and total hip BMD (OR=0.141, 95%CI=0.034~0.577,  $p=0.006$ ) were independent risk factors for hip fractures in postmenopausal women. The receiver operating characteristics curves showed that serum 25 (OH)D had a good AUC value (0.830).

**Conclusion:** Monitoring the alteration of serum 25 (OH)D and CTX-1 in clinically might be useful for fracture prevention.

**Biography**

Jixing Fan is a Medical Student of School of Clinical Medicine, Tsinghua University. He will graduate in June, 2018. During the period of student, he specialized in Osteoporosis, hip fractures in senile patients under the guide of Dr. Liang He. Presently, he studies as an intern in Beijing Jishuitan Hospital, Beijing, China.

fanjixing2015@163.com

**Notes:**



**Joint Event**

11<sup>th</sup> International Conference on

**OSTEOPOROSIS, ARTHRITIS & MUSCULOSKELETAL DISORDERS**  
&

**10<sup>th</sup> INTERNATIONAL CONFERENCE ON ARTHROPLASTY**

December 04-05, 2017 | Madrid, Spain

**Vitamin D or exercise whilst on high fat diet normalise bone mineral density**

Zeayd Saeed<sup>1,2</sup>, Justyna Janus<sup>2</sup>, J Baratte<sup>2</sup> and Cordula Stover<sup>2</sup>

<sup>1</sup>Al-Furat Al-Awsat Technical University, Iraq

<sup>2</sup>University of Leicester, UK

**D**iet induced obesity is a major health problem in developed and developing countries and affects not only cardiovascular but also skeletal health. Lipids have a direct reducing impact on bone mineral density by inhibiting osteoblastic differentiation and enhancing osteoclast differentiation. Conversely, vitamin D or exercise enhances the bone mineral microarchitecture through activating the osteoblasts activity and increasing the deposition of calcium. The effect of vitamin D or exercise on bone mineral density during high fat feeding was studied in male and female C57Bl/6J mice by micro-computed tomography. Experimental mice received a high fat high sugar diet with additional vitamin D supplement or had access to voluntary exercise. After five weeks, they were compared to mice on high fat high sugar diet. We find that vitamin D supplementation or additional exercise normalize within five weeks the bone mineral density by correcting the cortex and trabeculae segmentations. We conclude that these two intervention modes may be of value to obese persons who are in the process of correcting their dietary habits.

**Biography**

Zeayd Saeed has been graduated from the college of Veterinary Medicine and Surgery of Al-Qadisiyah University, Iraq as Veterinary Doctor. Later on, he obtained his Post-graduation in Microbiology from Belarusian State University, College of Biology, Belarus and then started working as Assistant Lecturer at the University of Al-Furat Al-Awsat Technical University / Technical institute of Samawa, Nursing department, Iraq. Presently he has been standing as a PhD student at the University of Leicester in Leicester City, UK.

zfss2@leicester.ac.uk

Notes:

**Joint Event**

11<sup>th</sup> International Conference on

**OSTEOPOROSIS, ARTHRITIS & MUSCULOSKELETAL DISORDERS**

**&**

**10<sup>th</sup> INTERNATIONAL CONFERENCE ON ARTHROPLASTY**

December 04-05, 2017 | Madrid, Spain

**Inhibitory effect on epithelial-mesenchymal transition (EMT) by HDAC9 inhibitor in CD133+ prostate cancer cell line**

**Bora Kim<sup>1,2</sup> and Wonbong Lim<sup>2</sup>**

<sup>1</sup>Chonnam National University, South Korea

<sup>2</sup>Chosun University Hospital, South Korea

One of the theories that a small fraction of cancer cells, defined as cancer stem cells (CSCs), are given rise to differentiated tumor cells, is proposed to predict tumor recurrence and metastases, providing some support for the concept that CSCs may be metastatic precursors through epithelial and mesenchymal transition (EMT). In this study, we tried to examine that ectopic overexpression of CD133 as a key molecule maintaining the stability of CSCs in human prostate cancer cell line, PC-3, DU145 and LnCaP. In addition, whether the specific inhibitor of simultaneously expressed gene in metastatic category could lead to alleviate the EMT properties was investigated in CD133 overexpressed PC-3, DU145 and LnCaP. Ectopic over-expressions of CD133 in PC-3, DU145 led to increase the CSC-related protein expression and colony forming ability in compared with blank GFP transfected cells. In analysis by microarray, gene expression of HDAC9 was increased simultaneously in CD133 overexpressed PC-3, DU145 and LnCaP. In addition, inhibition of HDAC9 led the decrease of EMT and metastatic properties sustained with increase of E-cadherin expression, wound gap distance and cell invasion through inhibition of  $\beta$ -catenin translocation. Taken together, these findings suggest that inhibition of HDAC9 could play a functional role in regulating EMT properties in CSC-like prostate cancer and it could be facilitate study of a novel classification system and therapeutic strategies for metastasis of prostate cancer.

**Biography**

Bora Kim has graduated from Department of Bioengineering for BS course and Biomedical Engineering for MS course from Chonnam National University, South Korea and PhD candidate at the same department. Also, as Researcher, with the specialties including Bone Biology, and Carcinogenesis, she has been working at the Department of Orthopedic Surgery, and Laboratory of Orthopedic Research, Chosun University Hospital in South Korea.

kbr85025@naver.com

**Notes:**



**Joint Event**

11<sup>th</sup> International Conference on

**OSTEOPOROSIS, ARTHRITIS & MUSCULOSKELETAL DISORDERS**

**&**

**10<sup>th</sup> INTERNATIONAL CONFERENCE ON ARTHROPLASTY**

December 04-05, 2017 | Madrid, Spain

e-Posters

*Osteoporosis and Arthroplasty 2017*

## Joint Event

11<sup>th</sup> International Conference on

# OSTEOPOROSIS, ARTHRITIS & MUSCULOSKELETAL DISORDERS &

## 10<sup>th</sup> INTERNATIONAL CONFERENCE ON ARTHROPLASTY

December 04-05, 2017 | Madrid, Spain

### Medical management practices in patients with clinically apparent osteoporotic fragility fracture – In Indian setting

Gauri Billa<sup>1</sup>, Arvind Bhawe<sup>2</sup>, Shreedhar Archik<sup>3</sup>, Milind Modak<sup>4</sup>, Tejas Upasani<sup>5</sup> and Zubair Sorathia<sup>6</sup>

<sup>1</sup>Abbott Healthcare Pvt. Ltd, India

<sup>2</sup>Bhave Hospital, India

<sup>3</sup>Care Clinic, India

<sup>4</sup>Yogesh Hospital, India

<sup>5</sup>Upasani Maternity & Surgical Nursing Home, India

<sup>6</sup>Medicare Hospital, India

Osteoporosis poses a huge challenge in India, with reported prevalence rates varying from 8% to 62% in Indian women. Despite high prevalence, data is scarce on the current management practices followed in Indian patients with clinically apparent osteoporotic fragility fracture. Hence this pan India study was conducted to understand the demographics, patient characteristics, contributing risk factors, management practices and the effect of teriparatide treatment on procollagen type-I N-terminal propeptide (PINP) bio-response marker (change in PINP at 3 months from baseline) in these patients, in Indian real-world setting. Adults ( $\geq 50$  years) with fragility fracture, on anti-osteoporotic treatment (excluding calcium/vitamin D), were enrolled. A total of 62 (30.69%) out of 202 enrolled patients completed the 12-month follow-up; 140 (69.31%) patients were lost to follow-up. Mean age of the study population was  $67.48 \pm 9.34$  years (women: 87.62%). Major sites of fracture were hip (10.9%), wrist (21.3%) and vertebra (69.8%). Most commonly ( $\geq 25\%$ ) identified environmental/medical risk factors were poor balance (34.57%), lack of assistive devices in bathrooms (32.10%), previous fall (28.40%) and obstacles in the walking path (27.16%). Most commonly prescribed anti-osteoporotic treatment post-fragility fracture were ibandronic acid (23.76%); zoledronic acid (21.78%), teriparatide (20.79%), calcium (12.87%), risedronate sodium (9.41%) and vitamin D (8.42%). Mean (SD) change in PINP at 3 months from baseline was  $-10$  mcg/L ( $10.76 \pm 77.27$  mcg/L) in subjects on teriparatide. This study sheds light on the current management practices among Indian orthopedic surgeons for treating patients with clinically apparent osteoporotic fragility fracture. Increase in PINP  $>10$  mcg/L post teriparatide therapy provides an earlier confirmation of anabolic effect, which in turn may be a useful aid for the management of osteoporosis. Further, a large proportion of patients were lost to follow-up, indicating the need for increasing awareness among patients, for a successful long-term therapy.

### Biography

Gauri Billa is an experienced Senior Medical Advisor with a demonstrated history of working in the hospital & health care industry. She has excellent skills in Clinical Research, Pharmacology, Clinical Trials, Healthcare, and Clinical Pharmacology. She is a strong healthcare services professional with a Doctor of Medicine (M.D.) focused in Pharmacology from King Edward Memorial Hospital.

shalini.nair@abbott.com

### Notes:

**Joint Event**

11<sup>th</sup> International Conference on

**OSTEOPOROSIS, ARTHRITIS & MUSCULOSKELETAL DISORDERS**

**&**

**10<sup>th</sup> INTERNATIONAL CONFERENCE ON ARTHROPLASTY**

December 04-05, 2017 | Madrid, Spain

**Effect of *Aphanizomenon flos-aquae* (AFA) on endogenous mesenchymal stem cell proliferation in African adult donkeys**

**Ochube G E, Hassan A Z, Kudi C A and Fadason S T**  
Ahmadu Bello University, Nigeria

The aim of this study which lasted sixteen weeks was to study the effect of feeding *Aphanizomenon flos-aquae* (AFA) (Stem enhance<sup>®</sup>) on stem cell proliferation & hematologic parameters in fractured African adult donkeys. Nine donkeys with clinical cases of mid shaft open metacarpal and mid shaft open metatarsal fractures were used for this experiment. Animals were divided into groups A and B. Group A comprised 6 donkeys was further divided into A1 and A2. A1 comprised A1a, A1b and A1c while A2 consists of A2a, A2b and A2c. A1 was the study group fed with stem enhance<sup>®</sup>, while A2 was the control group that was untreated. Group B had three donkeys that were tagged B1 and B2. B1 was made up of B1a and B1b while B2 was the only animal in the group of B2. B1 was the study group fed with stem enhance<sup>®</sup> while B2 was the control that was untreated. Duration of the study was sixteen weeks where both study groups were fed 2 capsules of stem enhance<sup>®</sup> (2.5mg/capsule) each daily for two weeks per month and two weeks off (alternately). Both groups were managed clinically while documenting the same post-operative parameters. Hematological parameters (PCV, WBC, total protein, hemoglobin concentration, total white blood count), stem cell count, calcium and phosphorus assay was carried out for both groups pre- and post-operatively. Data obtained were analyzed and findings showed that stem cell count for the group treated with stem enhance<sup>®</sup> was significant ( $P < 0.05$ ). Values for total protein was lower in favor of group A ( $P < 0.05$ ), however  $P$  value  $> 0.05$  was recorded for PCV, WBC, hemoglobin concentration and total white blood count was not significant. It was concluded that stem enhance<sup>®</sup> is a potent stem cell enhancer and may be of value in reducing healing time of fractures in animals thereby facilitating early return of the study group to active physical exercise. From this experiment, the study group was shown to have a superior healing time of 13 weeks as against the control group that had a healing time of 27 weeks.

**Biography**

Ochube Gabriel Eneche is a graduate of Ahmadu Bello University Zaria, Nigeria, West Africa. He bagged his Ph.D in November 2015 where specialized as an Equine Orthopedic Surgeon. He is a Fellow of the prestigious College of Veterinary Surgeons of Nigeria. He is a lecturer in the same University where he teaches both Undergraduate & Post-graduate clinical students in Large Animal surgery related courses. He has plenty publications in the related field in both local & international journals. He has a couple of conference papers & presentations (both local & international) to his credit. He has over 2 decade of clinical experience in Large Animal Practice.

[gabrielochube2000@gmail.com](mailto:gabrielochube2000@gmail.com)

**Notes:**

## Joint Event

11<sup>th</sup> International Conference on

# OSTEOPOROSIS, ARTHRITIS & MUSCULOSKELETAL DISORDERS &

# 10<sup>th</sup> INTERNATIONAL CONFERENCE ON ARTHROPLASTY

December 04-05, 2017 | Madrid, Spain

## Arthroscopy of the temporomandibular joint: Discopexy with resorbable pins

Rafael Martin-Granizo

Department of Oral and Maxillofacial Surgery, Spain

**Introduction:** Since early 80s, arthroscopy of the temporomandibular joint has been a Minimal Invasive Surgery (MIS) that effectively treats some intraarticular TMJ diseases. Nowadays, its interest among oral and maxillofacial surgeons is increasing but there is a lack of a complete training program, except in few places. This unique procedure allows surgeons to manage different diseases that include, synovitis, chondromalacia, adhesions, disc perforations and disc displacement. Also, beneficial substances, as PRP, hyaluronic acid and botulinum toxin can be instilled. This masterclass tries to help surgeons who are starting with the technique, giving them several tips to succeed and showing different pitfalls to avoid, based on the author's own experience in over 700 procedures. Further information will be helpful for the experienced surgeon and very innovative variation in standard techniques (i.e., discopexy with resorbable pins) will also be analyzed through educative videos.

**Purpose:** To describe the use of resorbable pins for disc fixation in a series of patients and their medium- long term outcomes.

**Materials and methods:** A study was conducted in 26 patients who underwent operative arthroscopic surgery and discopexy using resorbable pins. All patients were refractory to conservative treatment and presented, in at least one joint, anterior disc displacement without reduction on Magnetic Resonance Imaging (MRI). Pre- and postoperative evaluation parameters were disc position on MRI, maximal interincisal opening, lateral movements, joint pain, and articular locking and clicking.

**Results:** The technique was performed in 34 joints and 47 pins were inserted. Mouth opening increased significantly, from a mean of 31.24 mm preoperatively to 39.57 mm in one year postoperatively ( $p < 0.05$ ). Patients reported a decrease in pain, obtaining values on a visual analogue scale (1e100) of less than 20 after one year of post-surgery (mean improvement 47.9 points,  $p < 0.05$ ). Analyzing one-year MRI findings, in 65% of joints the discs were repositioned and in 20% of joints discs were in a more posterior position. Five years later results are also shown.

**Conclusions:** The use of resorbable pins is a useful technique for disc fixation and shows medium-long term improvement in clinical parameters and mandibular function. However, further studies are needed to evaluate a longer follow-up, joint morphologic changes, and disc stability on imaging

### Recent Publications

1. Martin-Granizo R, Garcia-Rielo JM, De la Sen O, Maniegas L, Berguer A and De Pedro M (2017) Correlation between single photon emission computed tomography and histopathologic findings in condylar hyperplasia of the temporomandibular joint. *Journal of Cranio-Maxillo-Facial Surgery* 45(6):839-844.
2. Martín-Granizo R and Millon-Cruz A (2016) Discopexy using resorbable pins in TMJ arthroscopy. Clinical and MR medium-term results. *Journal of Cranio-Maxillo-Facial Surgery* 44(4):479-486.
3. Millon-Cruz A and Martín-Granizo R (2015) Relationship between intra-articular adhesions and disc position in TMJ. MR, arthroscopic findings and clinical results. *Journal of Cranio-Maxillo-Facial Surgery* 43(4):497-502.

### Biography

Rafael Martin-Granizo is an Oral and Maxillofacial Surgeon in TMJ from 1997. He is an Active Member of the EACMFS and IAOMS. He is presently working as Staff in Department of Oral and Maxillofacial Surgery in Hospital Clinico San Carlos, Madrid, Spain. He is a Councillor for Spain in EACMFS from 2012. He is a President of Spanish Society of Oral and Maxillofacial Surgery. His practice focused on TMJ Surgery, Orthognathic Surgery and Oncology.

kiga9@hanmail.net

**Joint Event**

11<sup>th</sup> International Conference on

**OSTEOPOROSIS, ARTHRITIS & MUSCULOSKELETAL DISORDERS**

**&**

**10<sup>th</sup> INTERNATIONAL CONFERENCE ON ARTHROPLASTY**

December 04-05, 2017 | Madrid, Spain

**Decision support tool for diagnosis of Rheumatoid Arthritis**

Alireza Sadeghpour<sup>2,3</sup>, Samira Abbasgholizadeh Rahimi<sup>1</sup>, Jose L Salmeron<sup>4,5,6</sup> and Amir Mohammad Navali<sup>2,3</sup>

<sup>1</sup>Université Laval, Canada

<sup>2</sup>Tabriz University of Medical Sciences, Iran

<sup>3</sup>Shohada University Hospital, Iran

<sup>4</sup>Universidad Autónoma de Chile, Chile

<sup>5</sup>University of Hradec Králové, Czech Republic

<sup>6</sup>Pablo de Olavide University, Spain

Rheumatoid Arthritis (RA) is a chronic systemic inflammatory disease that influence on joints and muscles and can result in noticeable disruption of joint structure and function. Early diagnosis of RA is very crucial in preventing disease's progression. However, it is a complicated task for General Practitioners (GPs) due to the wide spectrum of symptoms, and progressive changes in disease's direction over time. The aim of this presentation is to summarize our work in development of a decision support tools for GPs in early diagnosis of RA and describes a small-scale test which has been conducted at Shohada University Hospital, Iran, for evaluating the accuracy of the proposed tool. This study proposed an advanced decision support tool based on consultations with a group of experienced medical professionals (i.e. orthopedic surgeons and rheumatologists), and using a well-known soft computing method called Fuzzy Cognitive Maps (FCMs). Briefly, considering obtained results in real practice, we believe that this tool can be useful in assisting GPs in early diagnosis of patients with Rheumatoid Arthritis. Indeed, in the lights of the proposed decision support tool: (i) GPs can evaluate patients' RA disease's severity more accurately and easily, (ii) the required time for patients' diagnosis could be decreased, (iii) quality of life of patients and quality of care may be improved, and more importantly (iv) the risks that could threaten patients due to the wrong or late diagnosis will be diminished.

**Biography**

Alireza Sadeghpour is an Associate Professor and Chair of Orthopedic Surgery department at Tabriz University of Medical Sciences. Sadeghpour is also currently serving as a Director and Chairman of Shohada University Hospital. He received his M.D. degree in 1992 and his Iranian Board Certificate of Orthopedic Surgery in 2000. His research interests are in Pelvis and Hip Surgery including Arthroplasty, hip preserving Surgery and Trauma.

sadeghpoura46@yahoo.com

**Notes:**





**Joint Event**

11<sup>th</sup> International Conference on

**OSTEOPOROSIS, ARTHRITIS & MUSCULOSKELETAL DISORDERS**

**&**

10<sup>th</sup> INTERNATIONAL CONFERENCE ON ARTHROPLASTY

December 04-05, 2017 | Madrid, Spain

# Accepted Abstracts

*Osteoporosis and Arthroplasty 2017*

**Joint Event**

11<sup>th</sup> International Conference on

**OSTEOPOROSIS, ARTHRITIS & MUSCULOSKELETAL DISORDERS**  
&

**10<sup>th</sup> INTERNATIONAL CONFERENCE ON ARTHROPLASTY**

December 04-05, 2017 | Madrid, Spain

**Inflammation and clinical function related to synovectomy during primary total knee arthroplasty**

**Duan Wang, Hao Yang Wang and Zong Ke Zhou**  
West China Hospital, P R China

**Statement of the Problem:** There is a controversy whether synovectomy must be done in primary total knee arthroplasty (TKA).

**Objective:** The objectivity of the study was to compare the effect of synovectomy on inflammation and clinical outcomes after surgical treatment of knee osteoarthritis.

**Methodology & Theoretical Orientation:** A total of 240 patients who underwent primary unilateral TKR were randomly divided into a group without (Group A) and with synovectomy (Group B). All operations were performed by the same surgeon and follow-up was for 4 years. Clinical outcomes (including American Knee Society score (AKS), SF-36, and HSS scores) serum inflammatory markers (including interleukin-6 (IL-6), CRP and ESR) and the difference in temperature of the affected knee skin, swelling, ROM, patients VAS satisfaction score and VAS pain score were sequentially evaluated until 4 years after surgery.

**Findings:** There were no statistically different clinical parameters between the two groups preoperatively. At the 4 years follow-up, both groups had a similarly significantly improved AKS clinical and functional score. Similar changes in serial inflammatory markers were identified in both groups. In addition, no difference was seen regarding drainage-fluid inflammatory markers at any follow-up time. There was no difference in respect to patients' satisfaction score from surgery to 1 year, but Group B showed greater patients satisfaction score from 2 years to four years, with less number of patients suffering from anterior pain. There was no difference regarding other parameters at any follow-up time.

**Conclusion & Significance:** Synovectomy in primary TKA does not seem to have any clinical advantage and shorten the duration of the inflammatory response, but it might increase patient satisfaction score and reduce anterior knee pain.

wangduan\_bone@163.com

**Notes:**

**Joint Event**

11<sup>th</sup> International Conference on

**OSTEOPOROSIS, ARTHRITIS & MUSCULOSKELETAL DISORDERS**  
&

**10<sup>th</sup> INTERNATIONAL CONFERENCE ON ARTHROPLASTY**

December 04-05, 2017 | Madrid, Spain

**New hip in a day - Setup and clinical experiences of outpatient hip replacement surgery in Germany**

**Ilan Elias, Manfred Krieger and Thilo Hartmann**  
GPR Hospital Rüsselsheim, Germany

Outpatient total hip replacement (THR) procedures are increasing in the orthopedic surgery community, especially in the USA, Scandinavia, and in Benelux countries. To the best of our knowledge, our study group is the first to report setup and first clinical experiences of ambulatory THR in Germany. From June 2016 until August 2017 41 patients (22 female/19 male, average age 60 years) underwent ambulatory primary hip replacement surgery in our institution with a direct anterior approach and all under general anesthesia. All patients were carefully selected and enrolled in our so called "Hip-in-a-Day" program. We have developed a protocol to identify which patients are suitable for this program and which ones should not undergo short stay hip arthroplasty. In addition, we have set up a strict immediate post-op regimen, which consist of eating, sleeping, and exercising, as well as defined discharge criteria. To optimize the pre-operative preparations, we implemented a so-called Rapid-Recovery-School for our patients. This includes a patient teaching and training course by each of the involved professional groups (surgeon, anesthesiologist, nurse, physical therapist, social worker, etc.) one week prior to surgery. By changing and optimizing the anesthesiologic setup, using minimally invasive surgical techniques, improving intra- and post-operative pain therapy, as well as optimizing physical therapy, we have now been able to perform single-day outpatient hip replacement procedures in selected patients for over one year. There were no readmissions, complications due to too early discharge or any other adverse events related to shortened length of stay. All patients that were initially identified for the ambulatory pathway, were in fact discharged the same day of surgery. There were no clinical reasons for prolonged length of stay. During the follow-up course all patients stated that they were very satisfied with the ambulatory concept and that they would recommend it to a friend or family member.

ilanelias@hotmail.com

**Notes:**

**Joint Event**

11<sup>th</sup> International Conference on

**OSTEOPOROSIS, ARTHRITIS & MUSCULOSKELETAL DISORDERS**

**&**

**10<sup>th</sup> INTERNATIONAL CONFERENCE ON ARTHROPLASTY**

December 04-05, 2017 | Madrid, Spain

**Epidemiology of low back pain among nurses working in public hospitals of Addis Ababa, Ethiopia**

**Belay M M, Worku A, Gebrie S A and Wamisho B L**  
Addis Ababa University, Ethiopia

Low back pain (LBP) related to Nursing Profession is common public health problem throughout the world. Etiology is assumed to be of multi-factorial origin as individual, work-related and psychosocial factors can contribute to its development. The aim of this study was to determine the prevalence and identify risk factors of LBP among Nurses working in Addis Ababa City Public Hospitals, Ethiopia. A cross-sectional study with internal comparison was conducted from October-to-December, 2015. Sample was chosen by simple random sampling technique by taken the lists of Nurses from human resource departments as a sampling frame. A well-structured, pre-tested and self-administered questionnaire was used to collect data. The questionnaire included socio-demographic, features and consequences of back pain, work-related and psychosocial factors. The collected data was entered in to Epi Info and analyzed by SPSS. A probability level of 0.05 or less and 95% confidence level was used to indicate statistical significance. Ethical clearance was obtained from all respected administrative bodies, Hospitals and study participants. The study included 395 Nurses and gave a response rate of 91.9%. The mean age was 30.6 ( $\pm 8.4$ ) years. Majority of the respondents were female (285, 72.2%). Nearly half of the participants (n=181, 45.8%) were complained Low Back Pain. There were significant association between LBP and working shift, physical activities at work; sleep disturbance and felt little pleasure by doing things. A high prevalence of LBP was found and recognition & Preventive measures like providing resting periods should be taken to reduce the risk of LBP in Nurses working in Public hospitals.

mengemulu99@hotmail.com

**Notes:**

**Joint Event**

11<sup>th</sup> International Conference on

**OSTEOPOROSIS, ARTHRITIS & MUSCULOSKELETAL DISORDERS**  
&

**10<sup>th</sup> INTERNATIONAL CONFERENCE ON ARTHROPLASTY**

December 04-05, 2017 | Madrid, Spain

**The effect of aquatic therapy on function and mobility using large therapeutic pool – A randomized controlled pilot trial**

Moon-Ju Ko<sup>1,2</sup>, Sun-Mi Kim<sup>1</sup>, Young-Bum Kim<sup>1,2</sup> and Jong-Seung Lee<sup>1</sup>

<sup>1</sup>Daegu Hospital, Republic of Korea

<sup>2</sup>Graduate School Keimyung University, Republic of Korea

Water is an excellent medium for achieving maximal exercise levels with disabilities. Aquatic therapy (AT) has advanced to therapeutic exercises in water environments because of the characteristics and benefits that the water provides. AT using large pool is effective and popular. The purpose of this study was to evaluate the effect of AT on function and mobility in patients with disability using large therapeutic pool. The outcome measures are Berg Balance Scale (BBS), Modified Barthel Index (MBI), Time up and go test (TUG), Functional Ambulation Classification (FAC), 10m walking test (10WT). Twenty patients with various lower leg fracture were participated in this study. In the AT group (n=10), the treatment over a period of six weeks included 30 minutes of aquatic therapy twice per week and a conventional therapy three times a week. Subjects in the conventional therapy (CT) group (n=10) received CT over a period of six weeks five times per week. The size of aquatic pool is 17 meters in length and 9 meters in width. After intervention, participants had a significant improvement on activity of daily living (ADL), mobility and balance in both CT and AT groups. Compared with the CT group, the AT group attained significant improvements in TUG, 10WT (P<0.05). There were no significant changes in other measures between the two groups. Our results suggest that AT using large therapeutic pool is safe and useful tool during rehabilitation in the patients with fracture to improve ADL, mobility and balance.

iluli0104@naver.com

**Notes:**

**Joint Event**

11<sup>th</sup> International Conference on

**OSTEOPOROSIS, ARTHRITIS & MUSCULOSKELETAL DISORDERS**  
&

**10<sup>th</sup> INTERNATIONAL CONFERENCE ON ARTHROPLASTY**

December 04-05, 2017 | Madrid, Spain

**Use of intravenous tranexamic acid with a bipolar sealer system for blood loss reduction in primary total knee arthroplasty – A randomized, controlled clinical trial**

Stephen M Walsh<sup>1,2</sup>, Alexandru Sevciciu<sup>1</sup>, Irwin Gross<sup>1</sup> and Samreen Fathima<sup>1</sup>

<sup>1</sup>Eastern Maine Medical Center, USA

<sup>2</sup>DownEast Orthopedic Associates, USA

**Introduction:** Total knee arthroplasty (TKA) bears risk of blood transfusion increasing complication rates, cost, and length of stay. Methods studied previously to reduce transfusions include tranexamic acid (TXA) and a bipolar sealer. Our center has nearly eliminated transfusions via pre-operative anemia management. We decided to test both tools to determine any effect on change in hemoglobin as a primary endpoint.

**Methods:** A four armed, double-blind, placebo controlled, prospective design was chosen. Groups included total knees with TXA or placebo and a bipolar sealer group with TXA or placebo. TXA was bolused 20 mg/kg IV and the bipolar sealer was used to “paint” the knee. Patients >18 undergoing primary TKA were included and excluded with adverse reaction to TXA, coagulation disorder, platelets <100,000, history of DVT, PE, CVA, acquired defective color vision, renal insufficiency, or coronary stents. An estimated sample size of 35 per group provided 80% power to detect a difference of 0.5 g/dL comparing delta hemoglobin pre-op day of surgery to post-op day 2. Comparisons utilized one-way ANOVA and Fisher’s least significant difference test for continuous variables, and Pearson’s chi-square test for categorical variables. 127 patients ultimately provided the necessary statistical endpoint.

**Results:** The mean hemoglobin change from baseline to post-operative days 2 was significantly lower in both groups with TXA compared to the control group (P=0.002). The group with the bipolar sealer alone showed no difference compared to control (P=0.074).

**Conclusion:** The data show that mean hemoglobin drop is lowered by TXA following total knee arthroplasty. There was no significant change due to the bipolar sealer compared to control. Multiple modalities have been shown to reduce transfusions following total knee. This study supports the use of TXA in primary total knee arthroplasty and calls into question to efficacy of the bipolar sealer.

swalsh@downeastortho.com

**Notes:**