**Monday, 25 August 2008**

**Room 608**

### 09:00-10:30 Free Papers – Spine: Basic Science - Trauma Spine

**Moderators:** Haisheng LI (Denmark) & Wai Kit NGAI (Hong Kong)

**15373 RECAPPING LAMINOPLASTY AND MONOSEGMENTAL POSTERIOR SPONDYLODESIS FOR SPINAL CORD INJURIES**
Tarek ALY (Egypt)

**15705 ROBOTIC ASSISTED VERTEBROPLASTY: OUR EXPERIENCE WITH A NOVEL APPROACH TO THE TREATMENT OF VERTEBRAL COMPRESSION FRACTURES**
Yaron ZAULAN, Vitali ALEXANDROVSKY, Moshe ROFFMAN, Moshe SHOHAM, Boris ZILBERSHTAIN, Alexander BRUSKIN (Israel)

**16253 A RANDOMIZED TRIAL OF BALLOON KYPHOPLASTY AND NONSURGICAL CARE FOR PATIENTS WITH ACUTE VERTEBRAL COMPRESSION FRACTURES: ONE-YEAR RESULTS**
Jan VAN MEIRHAEGHE¹, Leonard BASTIAN², Douglas WARDLAW³, Steven BOONEN¹
¹(Belgium), ²(Germany), ³(United Kingdom)

**17503 LATE STRESS FRACTURE OF A WELL-CONSOLIDATED STRUT GRAFT AFTER TOTAL SPONDYLECTOMY IN THE THORACIC SPINE**
Takui ITO, Naoto ENDO, Toru HIRANO, Ren KIKUCHI, Osamu MORITA (Japan)

**17889 INTEGRAL TREATMENT FOR TORACOLUMBAR FRACTURES**
Hector F. GUTIERREZ GUTIERREZ, Alfredo ORTIZ FLORES, Janneth MORALES IBARRA (Mexico)

**17969 FEASIBILITY STUDY OF BIOACTIVITY ENHANCEMENT OF POLYETHERETHERKETONE (PEEK) USING PLASMA IMPLANTATION TECHNOLOGY**
So Ching LUI, Kelvin YEUNG, Yuen Yi CHAU, Paul CHU, Kenneth CHEUNG (Hong Kong)

**18004 IN VITRO STUDY OF A NEW SURFACE MODIFIED BIODEGRADABLE METALLIC MATERIAL FOR ORTHOPAEDIC IMPLANTATION**
Hoi Man WONG, Kelvin YEUNG, Kin On LAM, Paul CHU, Keith LUK, Kenneth CHEUNG (Hong Kong)

**18073 CORRELATION OF OSTEOBLAST ACTIVITY AND METALLIC IONS RELEASED FROM AN IMPLANTABLE AND BIODEGRADABLE METALLIC MATERIAL**
Hoi Man WONG, Kelvin YEUNG, Kin On LAM, Paul CHU, Keith LUK, Kenneth CHEUNG (Hong Kong)

**18079 ANTERIOR VERSUS POSTERIOR VERSUS COMBINED ANTERIOR AND POSTERIOR SURGERY FOR OSTEOPOROTIC VERTEBRAL PSEUDARTHROSIS IN THE THORACOLUMBAR SPINE**
Toru HIRANO, Takui ITO, Osamu MORITA, Naoto ENDO, Akiyoshi YAMAZAKI, Yoichi YAJIRI, Shinji SATO, Noboru HOSAKA (Japan)

**18687 TANTALUM COATING MAY IMPROVE THE PERFORMANCE OF STAINLESS STEEL PEDICLE SCREWS**
Haisheng LI, Xuenong ZOU, Cody BÜNGER (Denmark)

**18768 SAGITTAL SPLIT AT THE LOWER HALF OF THE VERTEBRAL BODY IN DENIS TYPE B BURST FRACTURES**
Takeshi HOSHIKAWA, Eduardo YOSHIZAKI, Toshimi AIZAWA, Hiroshi OZAWA, Yasuhisa TANAKA, Sholchi KOKUBUN (Japan)

**18889 POSTERIOR LUMBAR INTERBODY FUSION USING ONE DIAGONAL FUSION CAGE WITH TRANSPEDICULAR SCREW/ROD FIXATION: MINIMUM 6-YEAR RESULTS**
Zhiming CHEN, Jie ZHAO (China)

**18904 SURGICAL APPROACH OPTIONS FOR TRAUMATIC SPONDYLOLISTHESIS OF THE AXIS (HANGMAN’S FRACTURE)**
Yu LIANG, Yaoceng GONG, Peng CAO, WenJian WU (China)

### 10:30-11:00 Break / Poster Discussion
IN VITRO STUDY OF A NEW SURFACE MODIFIED BIODEGRADABLE METALLIC MATERIAL FOR ORTHOPAEDIC IMPLANTATION

Hoi Man WONG, Kelvin YEUNG, Kin On LAM, Paul CHU, Keith LUK, Kenneth CHEUNG

1 The University of Hong Kong, Hong Kong (HONG KONG), 2 City University of Hong Kong, Hong Kong (HONG KONG)

INTRODUCTION: Some orthopaedics metallic implants require removal after healing so as to avoid stress shielding effect. The use of degradable metals such as magnesium-based alloys is therefore an alternative. However, rapid degradation and hydrogen gas release are the major obstacles. Surface modification can effectively tackle the problem of rapid degradation. Surface treatment using a novel substance, termed substance "X" has been recently applied by our team to enhance the corrosion resistance of AZ91 magnesium alloy. This study aims to investigate the corrosion resistance and biocompatibility of the untreated and treated alloys. METHODOLOGY: Immersion test using simulated body fluid for 14 days with the temperature controlled at 37°C was applied to simulate an in vitro corrosion environment. The concentration of the released ions was analysed by inductively-coupled plasma mass spectrometry. To evaluate cell attachment and proliferation, the treated and untreated samples were cultured for 1 and 3 days using green fluorescent protein mouse osteoblasts. RESULTS AND DISCUSSION: The Mg ions released by untreated sample are 9,920ppm which is about 14 folds higher than the treated at day 14. Gas bubble formation is not found on the treated sample at day 14, whereas severe corrosion and gas bubble formation are observed on the untreated one. It seems the treatment can successfully suppress the rapid degradation. In cell culturing, osteoblasts are well tolerated with the treated samples. However, no cell is found on the untreated surface. The next step is to observe in vivo degradation using animal model.