

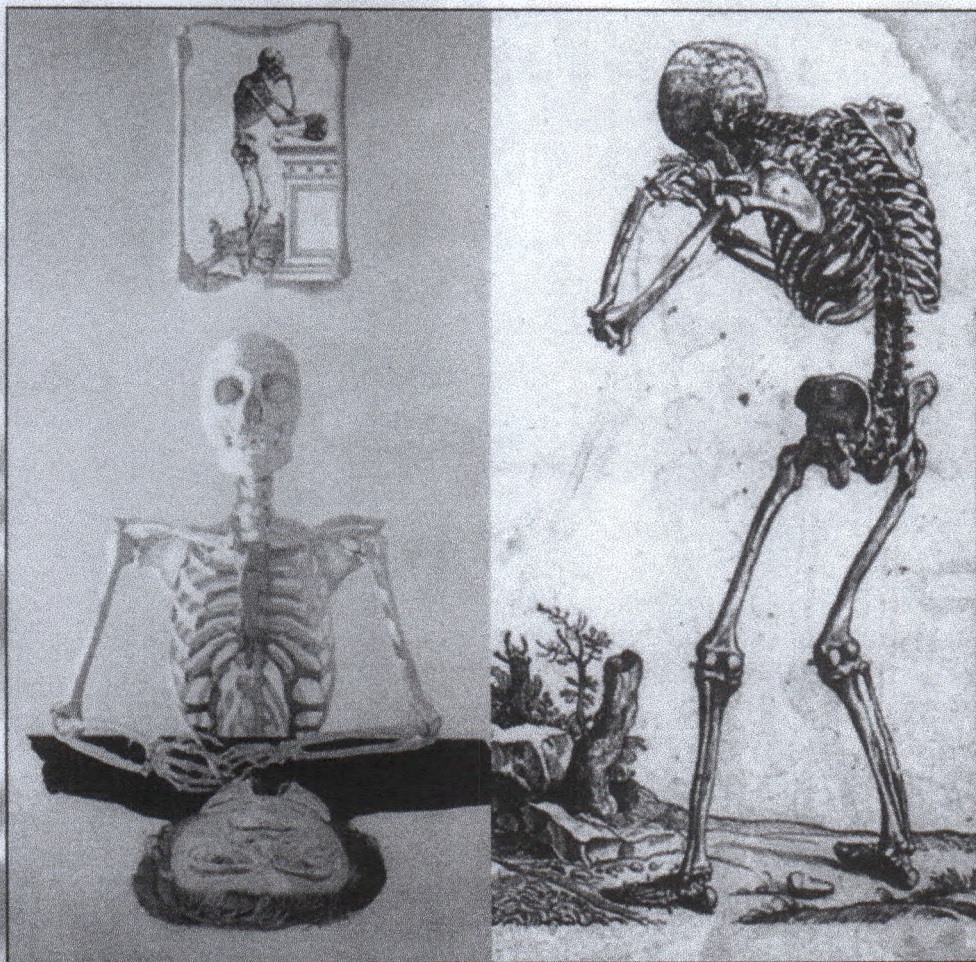


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Anatomy from gross to
molecular and digital**

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ABSTRACTS

**THE 18th CONGRESS OF THE INTERNATIONAL FEDERATION OF
ASSOCIATIONS OF ANATOMISTS**

BEIJING CHINA 08-10 AUGUST 2014

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Content

Foreword

Abstract

Authors index

1
2-286
I-IX

Foreword

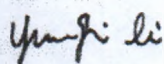
The 18th Congress of the International Federation of Associations of Anatomists (IFAA) is scheduled for August 8-10, 2014 in Beijing, China. On behalf of the organizing committee and the Chinese Society for Anatomical Sciences (CSAS), I would welcome you to this Congress. The congress will be hosted by the CSAS and will take place at the Beijing International Conference Centre, Beijing Continental Grand Hotel, Beijing, China. The conference centre and hotel are located in the Beijing Olympic Park. A wide range of accommodations are available around the Park, from budget accommodation up to 7-star hotels to suit all tastes and requirements.

The theme of the Congress will be **Anatomy, from gross to molecular and digital**. The IFAA Congress, as always, aims to bring together anatomists and other scientists around the globe to present and debate the latest and best research on anatomy, histology, morphology, cell biology, developmental biology, anthropology and digital morphology during the coming 4 years. It will provide an opportunity for networking and for delegates.

Beijing, as the Capital of China with an over 5,000 years civilization history, has countless historic and scenic spots, such as the Great Wall, Forbidden City, Summer Palace, Temple of Heaven, etc. You may have had a glimpse of her breathtaking beauty during the Beijing 2008 Olympic Games. The 2014 IFAA Congress will provide you an unforgettable opportunity to experience it by yourself. We will organize a wide range of a half day or day tours for your family during the conference. We will also arrange pre-/post-conference tours for you and your family to visit various tourist attractions around China.

We look forward to the pleasure of greeting you at what promises to be an exciting and fruitful meeting.

See you in Beijing! See you in 2014!



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Fluoroquinolones changes in the articular cartilage especially with high doses and more than two weeks use. So, due to relatively excessive use of enrofloxacin in the sheep flocks, this study was done to investigate the effects of enrofloxacin on cellular and molecular changes in growing lamb articular cartilage to evaluate some possible mechanisms involved these changes. Twelve, 2 month – old male lambs divided in three groups: control group received only normal saline; therapeutic group received 5mg/kg enrofloxacin subcutaneously, daily, for 15 days and toxic group received 35 mg/kg enrofloxacin as the same manner as therapeutic group. Twenty four hours after the last dose, the animals were euthanized and their stifle joints were dissected. Sampling from distal femoral and proximal tibial extremities were done quickly for further histological and molecular studies. Collagen-*n* content was studied with avidin- biotin immunohistochemistry method in different groups. Expression of Sox9 and caspase-3 was evaluated by Real – time PCR. Immunohistochemical changes were included decreases of matrix proteoglycans, carbohydrates and Collagen-*n* in toxic group. Some of these changes were observed in therapeutic group with less intensity in comparison to toxic group. Enrofloxacin were significantly decreased (P 0.05) Sox9 expression in therapeutic and toxic groups compared to control group. But caspase -3 expression in toxic group significantly increased (P=0.0001) with comparison to other groups, while between control and therapeutic groups, there were no significant differences. So, it can be concluded that enrofloxacin increases apoptosis in chondrocytes and decreases their numbers. Enrofloxacin use in growing lambs even at recommended therapeutic dose, is not completely safe on articular cartilage. moreover higher doses of enrofloxacin induce sever changes in lamb articular cartilage.

IFAA2014-2-011

The Histopathologic appearance of the pancreatic islet in hyperglycaemia

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Hyperglycemia is a crucial factor in the development of diabetic nephropathy because of its effects on glomerular and might cause renal damage. To determine the effect of hyperglycemia on pancreatic islet, we examined the pancreatic tissues from the four groups of male Swiss Albino mice, induced by different doses of glucose. Morphometric analysis on Haematoxylin-eosin stained pancreatic sections showed that the area and diameter of islet were higher in group G1 but lower in group G2 and G3 (p<0.05). The islet cells count was higher in group G2 and G3 (p<0.05). However, there was no significant difference on islet cells count between Kontrol group and group G1 (p>0.05). Islet density was slightly higher in all treated group (p<0.05). The result suggest that hyperglycemia caused significant changes in histopathological features of mice pancreatic islet.*

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<http://www.csas.org.cn/ifaa2014/>

IFAA2014-2-012

Ameliorative effect of ginkgo biloba on neurodegeneration caused by fluoride

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Excessive consumption of fluoride through drinking
 other sources leads to skeletal and dental fluorosis.
 addition to bones and teeth soft tissues and major
 also affected by fluoride toxicity. In the present
 attempted to investigate the structural changes in
 hippocampus followed by fluoride exposure and
 the ameliorative effect of Ginkgo biloba against neurodegeneration
 caused by fluoride. Animals were randomly divided
 groups (n=6 in each group), Control, Fluoride+Vehicle (F+V),
 Fluoride+Ginkgo biloba (F+GB). Control animals received plain tap water;
 all the other groups received 100ppm fluoridated water for 30 days.
 F+GB groups received 100mg/kg body weight of ginkgo
 and Ginkgo biloba respectively for 15 days. At the
 experimental period animals were euthanized brain
 processed and stained with cresyl violet staining. Well
 sections free from artefacts were selected for counting
 mean number of viable neurons. The fluoride group
 reduction in the mean number of viable neurons compared
 control, whereas more viable neurons were found in
 biloba treated group in comparison to fluoride group.
 the Ginkgo biloba may be an alternate therapeutic agent to
 treat fluorosis victims.

IFAA2014-2-013

3D scanning of unsectioned adult optic nerve with a CLARITY method by laser scanning confocal microscopy

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Studying axon in the central nervous system is often
 hampered by current histological and immunohistochemical
 because they provide only partial information about the
 reactions. The optic nerve (ON) crush model is considered
 be a classic model for studying CNS. In this study, C57BL/6
 C57BL/6 mice were anesthetized and the ON was cut for
 5s to observe a clear cut, however due to the high
 Animals with permanent ischemia were excluded. The ON was
 by embedding ON in hydrogel monomers, followed by
 thermally triggered initiators into tissue.

IFAA2014-10-016

Withdraw.

IFAA2014-10-018**Hydrogen peroxide impairs the proliferation of bone marrow stem cells and their endothelial differentiation independent of reactive oxygen species generation**

Yuan Xiao, Xin Li, Yuqi Cui, Lingjuan Liu, Jia Zhang, Patrick Liu, Hong Liu, Guanglong He, Zhenguo Liu

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Cell therapy with bone marrow mesenchymal stem cells (MSCs) remains a viable option for tissue repair and regeneration. One of the major challenges for cell-based therapy is the limited survival of the cells after in vivo administration. Although the exact mechanism(s) for impaired in vivo cell survival remains to be defined, oxidative stress is considered to be involved in the process of in vivo cell damage. The present study was to investigate the effect of hydrogen peroxide (H₂O₂) on bone marrow stem cells and their endothelial differentiation and the underlying mechanisms in vitro. Methods and Results: Rat bone marrow multipotent adult progenitor cells (MAPCs) were treated with H₂O₂ (with the final concentration from 0 to 50 μ M) with or without the antioxidant N-acetylcysteine (NAC, 1 mM). H₂O₂ generated a significant amount of reactive oxygen species (ROS) in the culture system as measured with electron paramagnetic resonance spectroscopy, substantially inhibited the proliferation, Oct-4 expression, and endothelial differentiation of MAPCs, and induced the apoptosis of MAPCs in a dose-dependent manner. The phosphorylation levels of p38 and p53 were significantly increased in the cells treated with H₂O₂, while no significant changes in the expression and activation of Akt and ERK1/2 were observed. ROS production from H₂O₂ in the culture system was completely blocked by NAC (1 mM). However, NAC treatment didn't prevent H₂O₂-induced apoptosis, and inhibition of cell proliferation and endothelial differentiation of MAPCs. Conclusion: H₂O₂ exposure increased the apoptosis of MAPCs and inhibited their proliferation, Oct-4 expression, and endothelial differentiation with a mechanism independent of ROS generation in vitro. The effects of H₂O₂ on rat MAPCs might be mediated through p38 and/or p53-related signaling pathway(s).

IFAA2014-10-019**Effect of bone marrow – mesenchymal stem cell on the expression of metalloproteinase-1 matrix and type I collagen in burn healing**

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This study aimed at determining the effect of Bone Marrow – Mesenchymal Stem Cell (BM-MSC) on the expression of metalloproteinase-1 matrix and type I collagen in rat burn healing. This research was an experimental research in post-test only control design, using 24 Wistar rats. The rats were divided into 3 groups: control (no burn), treatment I (full thickness burn administered Phosphate Buffer Saline (PBS), and treatment II (full thickness burn administered BM-MSC 2x10⁶ cells/ml subcutaneous). On day 14, skin tissues were taken to see the expressions of metalloproteinase-1 matrix and type I collagen by immunohistochemical staining. The results were analyzed by ANOVA test and Post Hoc Bonferroni. The expression of metalloproteinase-1 matrix increased in treatment I. The increase was different significantly compared to the increase that occurred in control and treatment II. There was no significant difference between the control group and treatment II. The expression of type I collagen increased in treatment II. The increase was different significantly compared to the increase occurred in treatment I. However, there was no significant difference between treatment II and control. Thus, this study showed the administration of BM-MSC can increase the expression of type I collagen and decrease the expression of metalloproteinase-1 matrix.

IFAA2014-10-020**Synergistic effect of peripheral blood mononuclear cells (PBMCs) and bone marrow bm- derived mesenchymal stem cell (BM-MSC) on the percentage of integrin α 2 β 1 in full thickness burn in rats**Gusti Revilla¹, Eryati Darwin², Fedik A. Rantam³, Yanwirasti Yanwirasti¹*¹Anatomy Department of Medical Faculty Andalas University, Padang, Indonesia; ²Histology Department of Medical Faculty Andalas University, Padang, Indonesia; ³Laboratory Institute of Tropical Disease (ITD) Airlangga University, Surabaya, Indonesia.***gustirevillaelok@yahoo.com*

Using both Bone Marrow-stem cell (BM-MSC) and peripheral blood mononuclear cells (PBMCs) from allogeneic donors as part of the therapy to heal the burn wound seem to give positive prospect for the future treatment. In this experiment, PBMC and rat BM- derived from mesenchymal stem cell were used as the therapy. To characterize the phenotype of MSC, it was also used to express the integrin α 2 β 1. The rats with burn wound were divided into 2 kinds of group; the first group of rats was selected to control the use of PBS; while second group of rats was used as the treatment object that was medicated by applying the combination of both BM-MSC and PBMC. Stem-cells subcutaneously administered dose applied to each rat was around of 2 x 10⁶ cells. The result showed that the combination of BM-MSC and PBMC can increase the percentage of integrin α 2 β 1 and this result statistically showed significant differences ($p=0.057$). This research proves that the combination of BM-MSC and PBMC stem cell served can accelerate the healing process in the burn wound on rats through increasing the percentage of

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30th CONGRESS OF CHINESE SOCIETY OF ANATOMICAL SCIENCES(CSAS)

AUGUST 8-10, 2014, BEIJING CHINA

CERTIFICATE



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Title: Prof. Dr

As speaker in 18th IFAA Congress,
30th National Congress of CSAS



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