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SCHOOL OF BIOMEDICAL SCIENCES
THE UNIVERSITY OF HONG KONG
香港大學生物醫學學院

Prof. DR. Dr Eryati Darwin,PA(K)
Jl. Veteran 1/7, Padang

The 4th International Anatomical Sciences and Cell Biology Conference

4th – 6th December, 2016 (Sun – Tue) | Hong Kong

CONFERENCE VENUE

Cheung Kung Hai Conference Centre
Li Ka Shing Faculty of Medicine
The University of Hong Kong

This conference is part of the 130th Anniversary Frontiers Conference Series in celebration of 130 Years of Medicine in Hong Kong.

130 YEARS OF MEDICINE IN HONG KONG
WISDOM · COMPASSION · COMMITMENT
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Prof. DR. Dr Eryati Darwin,PA(K)
JL. Veteran 13A Padang

Schedule-at-a-Glance

Super-resolution & Intra-vital Imaging Workshop
December 4, 2016 (Sunday)

08:30 – 17:00	**Registration**	
Time	**Programme**	**Venue**
09:30 – 11:00	L1 – L3	Lecture Theatre 3
11:00 – 11:30	Coffee Break	Exhibition Area
11:30 – 12:30	L4 – L5	Lecture Theatre 3
13:00 – 14:00	Lunch	Exhibition Area
14:00 – 18:00	Demonstration Session 1 - 4	FCF

Conference – Day 1
December 5, 2016 (Monday)

Time	Programme	
08:30 – 17:30	**Registration**	
	Lecture Theatre 4	
09:00 – 09:20	**Opening Ceremony** Guest of Honor: **Professor LEUNG, Suet-yi** Associate Dean (Research), LKS Faculty of Medicine The University of Hong Kong, Hong Kong	
09: 20 – 10: 50	Lecture Theatre 4 Plenary Lecture 1	
10:50 – 11:15	Coffee Break / Poster Session	
	Lecture Theatre 3	Lecture Theatre 4
11:15 – 12:45	SYM 1.1 Advances in Neuroscience	SYM 1.2 Innovations in Teaching Histology
12:45 – 14:00	Lunch Break / Poster Session	
	Lecture Theatre 3	Lecture Theatre 4
14:00 – 15:30	SYM 2.1 Advances in Developmental Studies	SYM 2.2 Good Practices in Teaching Gross Anatomy
15:30 – 16:00	Coffee Break / Poster Session	
16:00 – 17:30	Lecture Theatre 4 Plenary Lecture 2	
18:30 – 21:00	**Banquet** (Full registration participants and invited guests) Golden Lilies Banquet, Cyberport, Pokfulam	

Conference – Day 2
December 6, 2016 (Tuesday)

Time	Programme	
08:30 – 14:00	**Registration**	
09:00 – 10:30	Lecture Theatre 4 Plenary Lecture 3	
10:30 – 11:00	Coffee Break / Poster Session	
	Lecture Theatre 3	Lecture Theatre 4
11:00 – 12:30	SYM 3.1 Advances in Cancer Research	SYM 3.2 Body Donation
12:30 – 13:45	Lunch Break / Poster Session	
	Lecture Theatre 3	Lecture Theatre 4
13:45 – 15:15	SYM 4.1 Advances in Aging Studies	SYM 4.2 Innovations in Teaching Gross Anatomy
15:15 – 15:45	Coffee Break / Poster Session	
15:45 – 17:15	Lecture Theatre 4 Plenary Lecture 4	
17:15 – 17:30	**Closing Ceremony / Poster Awards**	

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Developmental Biology

Correlation between Interleukin-17 Serum and Goiter Gradation of Graves' disease patients

Dwitya Elvira, Eryati Darwin
Internal Medicine Department of Medical Faculty of Andalas University, Indonesia

Graves' disease (GD) is a thyroid autoimmune disease that systemically affect human metabolism. Graves' disease characterized as hyperthyroidism, diffuse goiter, opthalmopathy and/ dermopathy, increasing thyroid hormone (T3/T4), decrease of thyroid stimulating hormone (TSH) and increasing of autoantibody thyroid (TRAb). Etiology of GD remains elusive but imbalance of T-helper cells, regulatory T cells and cytokines were accused to cause this disease. The identification of new subpopulation of T helper (Th-17) produce IL-17 (Interleukin-17), is also crucial in development of autoimmune disease, particularly Graves' disease. Gradation of goiter were divide into three classifications: grade I, grade II and grade III. Aim of this study is to correlate between serum of IL-17 cytokine with goiter gradation of Graves' disease patients. Thirty patients diagnosed as Graves' disease based on clinical and laboratory measurement were included as object of this study. Age, gender, goiter gradation, thyroid function status was measured and noted as baseline characteristic of this study. Goiter gradation classified three classifications: grade I, grade II and grade III. Serum of IL-17 were measured using ELISA method. As a result of this study, we found increasing of IL-17 cytokine serum compared to control, with mean values 11,961,73 pg/mL in patient group, and 7,477,07 pg/mL in control group. Goiter gradation found mostly in grade II (50%) followed by grade I and grade III. There is no correlation between IL-17 serum with goiter gradation. From this study we can conclude that there is no correlation between cytokine IL-17 serum with goiter gradation in Graves' disease patients but we found increasing of interleukin-17 serum in Graves' disease patients that suggested that Th17 cells can play a central role in pathogenesis of Graves' disease.

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Developmental Biology

Effect of Fixed Orthodontic Appliance on the Levels of Matrix Metalloproteinase-8 in Gingival Crevicular Fluid

Eryati Darwin* and Aida Fitriana**
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Fixed orthodontic therapy is the preferred therapeutic modality for treatment of malocclusions that affect mastication and facial appearance. Nevertheless Its may cause subgingival microbial composition, promotion of tissue development and soft tissue injuries. This mechanical injury can lead to development of inflammatory reactions in periodontal tissues, which promote tooth movement and biological processes, resulting in bone resorption. Matrix metalloproteinases (MMP) are thought to be responsible for the turnover and degradation of the extracellular matrix that act on pro-inflammatory cytokines. Matrix metalloproteinase-8 (MMP-8) is a member of MMP family of enzymes is seen in almost every human tissue in which inflammation is present.
The aim of this study was to assess effects of fixed orthodontic therapy on the level of matrix metalloproteinase Twenty healthy patients who treated with a straight wire technique using brackets on the maxillary and the mandibular arches were divided into two group; one group with less than six months treated, and the other group with more than six months treated. Salivary samples were taken from gingival crevicular fluid and its MMP-8 level were determine using ELISA method. This study was approved by Research Ethic Committee.
Our study shows that the level of MMP-8 in group using more than six months fixed orthodontic appliance were higher than in group using less than six months with statistically significant differences ($p<0,05$) .
From our study, we conclude that orthodontic appliance may induced inflammatory process on the gingival tissue

Keywords: fixed orthodontic, inflammation, MMP-8

Targeting ANXA3 in combination with sorafenib for the treatment of hepatocellular carcinoma

Man TONG, Steve LUK, Jin DING, Terence LEE, Stephanie MA
School of Biomedical Sciences, LKS Faculty of Medicine, The University of Hong Kong

Sorafenib is the only FDA-approved tyrosine kinase inhibitor for targeted therapy in advanced HCC. Nevertheless, its efficacy is limited with only a modest improvement in patient outcome, likely due to acquired resistance. In-depth understanding of the molecular mechanism of sorafenib resistance is warranted for the development of novel treatment strategies. Recent studies by us and others have characterized liver tumor-initiating cells (T-ICs) to be a possible source of resistant and recurrent tumors and a plausible target for HCC treatment. Our group has previously identified CD133 to be a functional marker of liver T-ICs and found annexin a3 (ANXA3) to regulate cancer and stem cell-like properties in this subset of cells. Interestingly, our recent observations also found CD133+ liver T-ICs to be more resistant to sorafenib. Sorafenib resistant clones, established in HepG2 and Huh7 cells via continuous exposure to increasing concentrations of sorafenib, displayed enhanced abilities to migrate, invade, self-renew, and initiate tumor formation in immunodeficient mice, as well as higher expression of stemness-associated genes. These two sorafenib resistant cell lines and two other sorafenib resistant HCC patient-derived xenografts established in a similar manner were also found to be enriched for CD133 and ANXA3 expression. Sorafenib resistant clones with ANXA3 stably suppressed were re-sensitized to sorafenib treatment and had diminished ability to migrate, invade, self-renew and initiate tumor growth in vivo, further substantiating the role of ANXA3 in mediating sorafenib resistance in HCC. Mechanistically, an activated PKC/ERK/FRA2 signaling axis was found to be responsible for driving this phenomenon. Clinically, ANXA3 expression was also found to have prognostic value as a higher ANXA3 expression in HCC patients who have received sorafenib treatment was correlated with poor overall survival. The combinatorial use of a homemade ANXA3 neutralizing antibody and sorafenib on HCC patient derived xenografts is now being investigated as a potential new treatment regimen for combating sorafenib resistance in HCC.

The Correlation of Prolactin Level and Oxytocin with Duration of Amenorrhea Lactation in Exclusive Breastfeeding Women

Arni Amir[1], Eryati Darwin[2]
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[2]Department of Histology
Faculty of Medicine, Andalas University, Indonesia

Prolactin and oxytocin were hormones that play important roles in lactation process. When mothers exclusive breastfeeding, it presses ovulation causing no occurrence of menstruation, called amenorrhea lactation. After six months breastfeeding, it would make the mother had higher risk for menstruation and pregnancy. The aim of this research is determining the correlation between prolactin and oxytocin level with duration of amenorrhea lactation in exclusively breastfeeding mothers.
The design of the research was cross-sectional, observing 48 exclusively breastfeeding mothers in Puskesmas Padang Belimbing, September 2015 - June 2016. Samples were selected based on cluster random sampling. The examination of prolactin and oxytocin level was conducted at Biomedical Lab Faculty of Medicine Unand with human prolactin ELISA Kit and Human oxytocin Elisa Kit. Shapiro-Wilk was applied for normality test of the data, and Spearman's correlation was applied for analyzing prolactin and oxytocin level with duration of amenorrhea lactation.
The result is that there is a weak positive correlation and significance between prolactin level and duration of amenorrhea lactation (r=0.331; p=0.022); and there is a very weak negative correlation and insignificance between oxytocin level with the duration of amenorrhea lactation (r=-0.085; p=0.565).
The higher prolactin level, the longer amenorrhea lactation duration and the higher oxytocin level, the shorter amenorrhea lactation period.

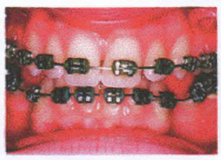
Keywords: Prolactin, Oxytocin, Duration of Amenorrhea Lactation, Exclusive Breastfeeding

Effect of Fixed Orthodontic Appliance on the Level of Matrix Metalloproteinase-8 in GingivalCrevicular Fluid

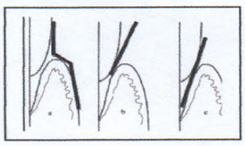
Eryati Darwin[1] and Aida Fitriana[2]
[1]Faculty of Medicine Andalas University, [2]Faculty of Dentistry Andalas University, Padang-Indonesia

Background

Fixed orthodontic therapy is the preferred therapeutic modality for treatment of malocclusions that affect mastication and facial appearance. Nevertheless Its may cause subgingival microbial composition, promotion of plaque development and soft tissue injuries. This mechanical injury can lead to development of inflammatory reactions in periodontal tissues, which promote tooth movement and biological processes, resulting in bone resorption. Matrix metalloproteinases (MMP) are thought to be responsible for the turnover and degradation of the extracellular matrix that act on pro-inflammatory cytokines. Matrix metalloproteinase-8 (MMP-8) is a member of MMP family of enzymes is seen in almost every human tissue in which inflammation is present. To determine the effect of fixed orthodontic appliance, we measured the level of matrix metalloproteinase in gingival crevicular fluid



Material and Methods



- 10 subjects of healthy patients treated with a straight wire technique using brackets on the maxillary and the mandibular arches for less than 6 months and more than 6 months
- 10 subjects using brackets on the maxillary and the mandibular arches as accessories for less than 6 months and more than 6 months
- Salivary samples were taken from gingival crevicular fluid using paper point no.15
- MMP-8 level were measured by using ELISA method.
- Statistical analysis: Kruskall Wallis and Post Hoc Man Whitney

Results

- Kruskall Wallis analysis for the level of MMP 8 on gingival crevicular fluid of subjects were using fixed orthodontic appliance for treatment and accessories purpose for less than 6 months and more than 6 months sows in table
- The level of MMP-8 in group using more than six months fixed orthodontic appliance were higher than in group using less than six months with statistically significant differences (diagram) .

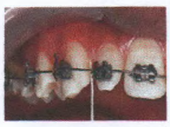
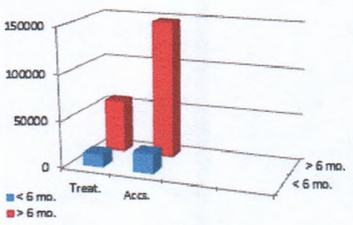


Table: The level of MMP 8 on gingival crevicular fluid of subjects were using fixed orthodontic appliance for treatment and accessories purpose for less than 6 months and more than 6 months

Fixed Orth. Appliance	MMP 8 level (pg/dl) Median	p
Treatment <6 month	14237,56	0,148
Treatment > 6 month	56830,94	
Accessories < 6 month	21091,67	
Accessories < 6 month	147892,66	



Diagram

Conclusion

From our study, we conclude that long period of fixed orthodontic appliance may induced inflammatory process on the gingival tissueespecially for the long period fixed orthodontic appliance for accessories purpose

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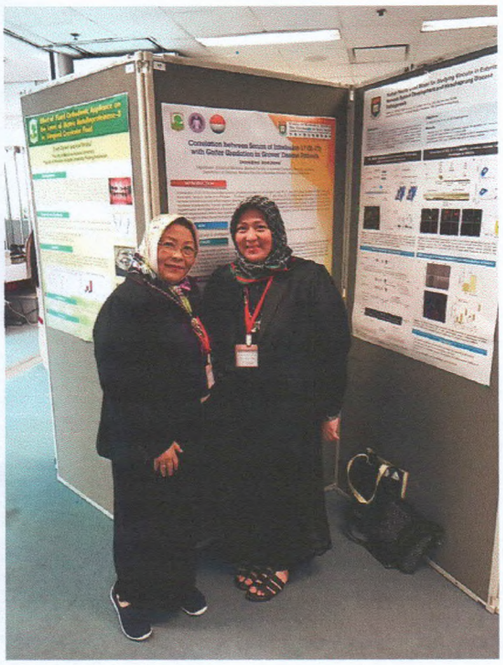


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Certificate of Attendance

This is to certify that

DARWIN Eryati

has attended the

4th International Anatomical Sciences and Cell Biology Conference (IASCBC 2016)

held in The University of Hong Kong on 4th-6th December, 2016.

George Tsao Sai Wah
Chairman of Organising Committee
IASCBC 2016

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