

Dr Azlina A.Razak

B.Biomed.Sci.(Hons), M.Sc.(Medicine), Ph.D.

Host Institution: School of Life Sciences, University of Nottingham, Medical School, Queen's Medical Centre, Nottingham, NG7 2UH, United Kingdom.

Previous Home Institution: Faculty of Medicine, University Teknologi MARA (UiTM), Sg. Buloh Campus, 74000 Sg. Buloh, Selangor, Malaysia.

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EDUCATION

Doctor of Philosophy (Pharmacology & Physiology) 2015

School of Life Sciences, University of Nottingham, United Kingdom, 2011-2015

Sponsored by Islamic Development Bank under Merit Scholarship Programme 2011

Thesis: "Effects of adenosine on vascular contractility and endothelial barrier integrity in pregnancy complicated by maternal diabetes"

In this PhD study, an impaired adenosine-induced vasocontraction in human fetoplacental vessels and adenosine-induced barrier enhancement in primary endothelial cell culture derived from diabetic placenta were suggested. Maternal diabetes may alter adenosine and thromboxane A₂ receptors and/or their signaling pathways and thus the contractility of the chorionic vessels and *in vitro* endothelial barrier integrity of umbilical veins.

Master of Science (Medicine) 2010

Faculty of Medicine, MARA University of Technology (UiTM), Malaysia, 2005-2009

Sponsored by Malaysian Ministry of Science, Technology & Innovation Postgraduate Scholarship

Thesis: "Effects of tocotrienol on coronary risk markers in hypercholesterolaemia"

My MSc degree involved two types of *in vivo* studies: high cholesterol diet feeding in rabbits as the model of experimental atherosclerosis and hypercholesterolaemic patients with different coronary risk categories. Reduced inflammation in rabbit atherosclerotic tissues at low dose of vitamin E tocotrienol-enriched supplementation were found despite neutral effects on lipids, oxidative stress, inflammation and atherosclerotic lesions. Addition of vitamin C on tocotrienol-enriched supplementation showed neutral effects on lipid profiles and inflammatory markers in human subjects.

Bachelor of Biomedical Sciences with Honours 2003

Faculty of Allied Health Sciences, National University of Malaysia (UKM), 2000-2003

BSc programme under Malaysian Public Service Department Scholarship

Honours Thesis: "The genotoxic effect of *in vivo* microwave irradiation on rat's peripheral blood at different exposure distances"

In this honours thesis, the genotoxic effect on rat's peripheral blood due to 2h microwave irradiation at the frequency of 9.4 GHz with the source power of 10 mW at three different distances were studied. Low-powered microwave has been found to cause DNA damage of mononuclear leucocytes for all 3 exposure distances and was capable to induce increased plasma antioxidant enzyme activity in the DNA damage mechanism for the near distance.

RELEVANT EMPLOYMENT

Clinical Trial Management

- **3 year as graduate research assistant for human interventional study for MSc degree (2004-2007)**
Faculty of Medicine UiTM
 - A pilot clinical study (randomised double-blinded trial) involving 142 hypercholesterolaemic patients were performed with 3 monthly follow up for 1 year antioxidant supplementation under grant code 100-IRDC/IRPA/16/6/2(13/2004), collaborated with Pfizer for atorvastatin supply and Golden Hope Plantation for palm vitamin E tocotrienol-enriched supplementation
- **1 year as study coordinator for DISCOVERY Asia Study (2004-2005)**
Clinical Trial Centre, Faculty of Medicine UiTM
 - A multi-centred clinical trial and collaboration with AstraZeneca

OTHER RELATED EMPLOYMENT/EXPERIENCE

Multitasking and excellent track record of documentation

- As a senior research assistant at Faculty of Medicine, UiTM (2009-2010), I have been managing a few research projects simultaneously (experimental atherosclerosis and cross-sectional human study on metabolic syndrome at the same time). In addition, my roles as the senior research assistant include overseeing the proposal record, progress reports, budget, database and completion process of all on-going research within the research group.

Ethics application and consent records

- I have assisted the ethics application during my MSc tenureship and conducted the consents at both MSc and PhD degree courses. I completed the competency of Good Clinical Practice (GCP) before engaged with the patients. I understand the inclusion and exclusion criteria for the patient recruitment and ensured these criteria were fulfilled prior to patient consents and recorded properly.

Patient screening and recruitment

- Besides the four years of relevant employment for clinical trial management, I have worked at lipid clinic, UKM teaching hospital (2003-2004), involved in community service (2003, 2004 and 2007) in several cities across the state in Malaysia for epidemiology study, attended local community clinic and university health centre which also served as a requirement to screen potential eligible patients for the clinical trials. I was also employed as a research assistant at Faculty of Pharmacy, UiTM (2008-2009) and responsible for cosmetic research involving the effect of short-term topical cosmetic application on human skin properties.

Plan and time management of clinical research

- I have assisted two principal investigators for 3 clinical research studies. The works involve from the initial stage of assisting the agreement between principle investigator (PI) and sponsor bodies, patient screening, consents, recruitment, follow-up, drop-out, reports of adverse events and last stage of study completion including document archiving using external independent archiving service. In addition, I am well versed both clinical data collection (endothelial function by flow-mediated dilatation and intima-media thickness) and laboratory sample analysis (basic blood chemistry such as lipid profile and urinalysis)

RELEVANT SKILLS

- **Clinical trial.** Passed the competency examination of Good Clinical Practice (2005) conducted by the administration of Faculty of Medicine UiTM and endorsed by Malaysian Ministry of Health.
- **Data management.** I am proficient at managing both written and electronic documentations for the clinical research. The written documents involved were the patient's case notes and the study personal reference file (PRF)/ case report forms (CRF). The electronic versions involved the Microsoft Word documents and Excel spreadsheets for routine management, and use of SPSS and prism statistical package for both cross-sectional and longitudinal data analysis.
- **Completion of clinical research and audit of clinical trial documentation.** I have assisted the principal investigators for 3 prospective clinical research studies and 3 cross-sectional human studies over 12 years of my post-BSc degree working experience (since 2003). I have managed the completion of 2 prospective clinical research studies (Antioxidants-Hypercholesterolaemic Study and DISCOVERY Asia).
- **Communication skill and teamwork.** I have been exposed to work within a multi-disciplinary research teams: (1) Obstetrician, Physiologist and Pharmacologist for my PhD work, (2) Cardiologist, Respiratory Physician, Family Medicine Specialist, Radiologist and Pathologist for the clinical research at the MSc level, and (3) Biochemist, Physiologist and Physicist during my undergraduate project. I have a pleasant disposition to work at the frontline desk.
- **Delivering research training.** I have co-supervised two BSc thesis on the remaining randomised clinical trial data (113 patients for 1 year supplementation) under research grant 100-IRDC/IRPA/16/6/2(13/2004) UiTM and one BSc thesis on additional tissue markers for the animal work from my MSc programme (2008). I trained junior research assistants for specific research projects as a senior research assistant (2009-2010). I also co-supervised three BMedSci research projects (2011, 2012, 2015) on primary cell culture from diabetic pregnancy, effect of bradykinin on isolated placental vessels and STEM cell culture during my PhD. I was also a demonstrator for Histology BMedSci. Year 1 Human Development & Tissue Differentiation (HDTD) module (2013, 2014, 2015) at University of Nottingham.
- **Scientific writing background.** I have two manuscripts (one submitted to Annals of Nutrition and Metabolism and one in process of proofreading), 10 abstracts in journals (8 international, 2 local/Malaysian). 3 full papers in proceedings (all locals). 28 abstracts in proceedings (21 international, 7 locals).

RELEVANT PUBLICATIONS

1 submitted manuscript, 5 abstracts in international journals, 1 abstract in local (Malaysian) journal, 2 full paper in local proceedings and 16 abstracts in proceedings (15 international, 1 local) which are on human studies and clinical research

Manuscript

1. Abdul Rahman TH, **Azlina AR**, Muid S, Ramli AS, Muhamed Osman, Nawawi H. The Effects of Combined Tocotrienol-Tocopherol Mixed Fraction and Vitamin C on Lipid Profile and Inflammatory Status in Statin-Treated High Risk Patients (*submitted to Annals of Nutrition and Metabolism and in the process of rebuttal*)

Abstracts in international journals

1. **Azlina Razak**, Lopa Leach, Vera Ralevic. 2012. Reduced contraction to adenosine in chorionic arteries from pregnancies complicated with gestational diabetes. *Microcirculation*, 20(6): 574. *Impact factor: 2.263*
2. **Razak, A.A.**, Tengku Ismail, T.S., Mohamad Taib, M.R., Mustafa Kamal, M., Abd Muid, S., Osman, M.T., Yusoff, K., Nawawi, H. (2010). Prothrombogenesis In Subjects With Metabolic Syndrome And Central Obesity. *Atherosclerosis*, 2(Supplement 11):32. *5-year impact factor: 3.991*
3. Hapizah Mohd Nawawi, Tengku Saifudin Tengku Ismail, Anis Safura Ramli, Normalina Mansor, Sushil Kumar Vasudevan, Muhammad Huzaimi Haron, **Azlina A. Razak**, Suhaila Abd Muid, Khalid Yusoff. (2007). Effects of antioxidants on coronary risk markers in patients with hypercholesterolaemia in the high risk category. *Malaysian Journal of Pathology*, 29(Supplement A), 184-185. *Impact factor: 0.022*
4. Nawawi H., Ismail T., Mahyuddin M.M., Mansur N.M., Razali R., Muid S., **Azlina A.R.**, Yusoff K., for the Coronary Risk Prevention Investigators. (2006). Higher prevalence of metabolic syndrome by the International Diabetes Federation (IDF) than the Adult Treatment Panel III National Cholesterol Education Program (NCEP ATP III). *Journal of Hypertension*, 22 (Supplement 1): 61. *Impact factor: 4.222*
5. Nawawi H., Ismail T., Mahyuddin M.M., Mansur N.M., Razali R., Muid S., **Azlina A.R.**, Yusoff K. (2006). Lower waist circumference threshold for metabolic syndrome in an Asian Malay population. *Atherosclerosis*, 7(Supplement 3):423.

Abstracts in local journal

1. Hapizah Mohd Nawawi, Tengku Saifudin Tengku Ismail, Anis Safura Ramli, Normalina Mansor, Sushil Kumar Vasudevan, Muhammad Huzaimi Haron, **Azlina A. Razak**, Suhaila Abd Muid, Khalid Yusoff. (2007). Effects of antioxidants on coronary risk markers in patients with hypercholesterolaemia in the high risk category. *Malaysian Journal of Pathology*, 29(Supplement A), 184-185.

Full papers in local proceedings

1. Hapizah Nawawi, Suhaila Muid, **Azlina A. Razak**, Abd Manaf Ali, Zaiton Zakaria, Nafeeza Mahmud, Methil Kannankutty, Anshoo Agarwal, Tengku Saifudin Tengku Ismail, Normalina Mansur, Anis Safura, Sushil Kumar, Mansharan Kaur, Marymol Koshy, Khalid Yusoff. Effects of antioxidants on coronary risk markers in hypercholesterolaemia. *Research Workshop 2007, Faculty of Medicine, Universiti Teknologi MARA, Malaysia. 27-28 Jan 2007. ISBN 978-983-3644-45-2, pages 5-15.*
2. Hapizah Nawawi, Suhaila Muid, **Azlina A. Razak**, Abd Manaf Ali, Zaiton Zakaria, Nafeeza Mahmud, Tengku Saifudin Tengku Ismail, Khalid Yusoff. Effects of antioxidants on coronary risk markers in patients with hypercholesterolaemia in the high and moderate risk categories. *Seminar IRPA 2005 Universiti Teknologi MARA, Putrajaya, Malaysia. 26-27th February, 2005. ISBN 983-94114-65-5. (Excellent Presenter Award to Hapizah Nawawi)*

Abstracts in international proceedings

1. **Azlina Razak**, Lopa Leach, Vera Ralevic. Effect Of Type 1 Diabetes On Contractile Responses Of Chorionic Arteries To Adenosine and U46619. *5th UK Purine Club Symposium, University of Cambridge UK, 16th December, 2013.*
2. **Azlina Razak**, Lopa Leach, Vera Ralevic. Thromboxane vasoconstrictor response of chorionic vessels from pregnancies complicated with gestational diabetes. *37th World Congress of International Union of Physiological Sciences (IUPS), Birmingham UK, 21-26th July, 2013.*
3. Tengku Ismail T.S., **Razak A.A.**, Mohamad Taib M.R., Abd Muid S., Syed Baharuddin S.N.H., Osman M.T., Yusoff K., Nawawi H. Increased Inflammation In Centrally Obese And Metabolic Syndrome Subjects With Different Glycaemic Status. *The 23rd Scientific Meeting of the International Society of Hypertension (ISH 2010), Vancouver Canada, September 2010.*
4. Thuhairah Abdul Rahman, **Azlina Abdul Razak**, Suhaila Muid, Rafezah Razali, Hapizah Nawawi. Enhanced Oxidative Stress and Prothrombogenesis in Patients with Primary Hypercholesterolaemia. *10th Asian Colloquium of Asian Network of Clinical Laboratory Standardization and Harmonization (ANCLS). Daegu, Korea. 21-23th Oct, 2009.*

5. Ali S, **Azlina AR**, Mohamad Sharipudin NS, Osman MT, Ismail TS, Ramli AS, Vasudevan SK, Haron MH, Nawawi H. Neutral effects of tocotrienol rich fraction (TRF) vitamin E on endothelial function and thrombogenesis in the low coronary risk category. *10th Asian Colloquium of Asian Network of Clinical Laboratory Standardization and Harmonization (ANCLS)*. Daegu, Korea. 21-23th Oct, 2009.
6. Nawawi H, **Azlina AR**, Taib R, Sayyedah N, Muid S, Osman M, Yusoff K, Ismail T. Central obesity in the presence of metabolic syndrome has enhanced oxidative stress. *Annual Scientific Meeting 2009 of Australian Atherosclerosis Society*. Melbourne. 13-15th Oct, 2009.
7. **Azlina AR**, Ismail TS, Ramli AS, Vasudevan SK, Haron MH, Yusoff K, Normalina M, Nawawi H. The effect of adding antioxidants supplementation on soluble adhesion molecules in statin treated high risk patients. *7th COSTAM/ SFRR (Asean/ Malaysia) International Workshop 2009, Langkawi, Malaysia, 9-12th July, 2009*.
8. Ali S, **Azlina AR**, Sharipudin NS, Mohamed TO, Ismail TS, Ramli AS, Vasudevan SK, Haron MH, Yusoff K, Nawawi H. The effects of tocotrienol-rich fraction and vitamin C on cholesterol and inflammation in subjects with low coronary risk. *Palm International-Nutra Cosmeceutical Conference 2009, Kuala Lumpur, Malaysia. 24th May – 26th May 2009*.
9. **Azlina AR**, Ismail T, Ramli AS, Vasudevan S, Normalina M, Haron MH, Muid S, Yusoff K, Nawawi H. Neutral effect of combined tocotrienol-rich fraction and vitamin C in statin treated high risk patients. *Annual Scientific Meeting 2008 of Australian Atherosclerosis Society*. Sydney. 28-31st October, 2008.
10. Rafezah Razali, **Azlina A. Razak**, Sarina Ali, Aini Suhaili Ridwan, Suhaila Abd Muid, Tengku Saifudin Tengku Ismail, Anis Safura Ramli, Normalina Mansor, Sushil Kumar Vasudevan, Muhammad Huzaimi Haron, Mohamed T Osman, Khalid Yusoff, Hapizah Mohd Nawawi. Effects of antioxidants on coronary risk markers in patients with hypercholesterolaemia in the moderate risk category. *Proceedings of the 9th Colloquium of Asian Network for Clinical Laboratory Standardization and Harmonization (ANCLS), Tokyo, Japan 21-22th August 2008*.
11. Nawawi H, Ismail T, Mansor NM, Mahyuddin M, Razali R, Muid S, **Azlina AR**, Yusoff K. Comparison of Metabolic Syndrome Prevalence and Risk Categorization by Different Criteria in a Malay Asian Population. *7th Colloquium ANCLS & PreCongress Workshop on Laboratory Medicine*. Putrajaya. Malaysia, 9-10th August 2006. (Best Poster Award – portable hddisk as the prize).
12. Nawawi H, Ismail T, Mahyuddin MM, Mansur NM, Razali R, Muid S, **Azlina AR**, K Yusoff for the Coronary Risk Prevention Investigators. (2006). Waist circumference threshold for metabolic syndrome amongst Asians – is the NCEP ATP III criteria suitable? *7th Colloquium ANCLS & PreCongress Workshop on Laboratory Medicine*. Putrajaya. Malaysia, 9-10th August 2006.
13. Hapizah Nawawi, Tengku Saifudin Tengku Ismail, Muizudin Mahyuddin, Normalina Mansur, Rafezah Razali, Suhaila Muid, **Azlina A. Razak** and Khalid Yusoff for the Coronary Risk Prevention Investigators. Lower waist circumference threshold for metabolic syndrome in the Asian Malays compared to the Caucasians. *European Society of Cardiology Congress 2005, Stockholm, Sweden, 3-7 September 2005*.
14. Nawawi H, Ismail T, Mahyuddin MM, Nasir Z, Razali R, Muid S, **Azlina AR** and Yusoff K for the Coronary Risk Prevention Investigators. A large proportion of metabolic syndrome subjects in an Asian Malay population is categorized as moderate and high risk group. *European Society of Cardiology Congress 2005, Stockholm, Sweden, 3-7 September 2005*.
15. Othman H, Muid S, **Razak AA**, Yusoff K, Nawawi H. Risk categorization of patients with hypercholesterolaemia: National Education Program Adult Treatment Panel III versus II. *XVth International Symposium on Drugs affecting Lipid Metabolism, Venice, Italy, 24-27th Oct 2004*.

Abstracts in local proceedings

1. **Azlina A. Razak**, Tengku Saifudin Tengku Ismail, Suhaila Muid, Mohamad Razif Mohamad Taib, Muhammad T Osman, Khalid Yusoff, Hapizah Mohd Nawawi. Increased Coronary Risk Markers In Metabolic Syndrome Subjects With Different Glycaemic Status And Central Obesity. *2010 National Postgraduate Seminar (NAPAS 10')*, Kuala Lumpur, Malaysia. 6-7th July, 2010. (Best Poster for Science & Technology Category)

REFEREES

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