6th IIUM dental students' SCIENTIFIC CONFERENCE 2017

IIUM 6th

DSSC

Seeking Dental Excellence
Through Comprehensive
Scientific Research

KULLIYYAH OF DENTISTRY
20th FEBRUARY 2017

POSTER PRESENTATIONS

NO	ABSTRACT ID	TITLE	PRESENTERS	TIME
1.	P-01	EFFECT OF DENTIN PRETREATMENT ON SMEAR LAYER THICKNESS. AN ULTRASTRUCTURAL STUDY	1. Nur Sarahniza binti Samani 2. Syakirah binti Mohd Ridzuan	10.15 – 10.30 am
2.	P-02	COMPARATIVE STUDY: THE REPEATABILITY OF THREE DIAGNOSTIC SYSTEMS (LASER FLUORESCENCE, VISUAL (ICDAS II) AND RADIOGRAPHIC) FOR CARIES DIAGNOSIS	1. Nafadila binti Yaacob 2. Nur Nabilah binti Asmail @ Ismail	10.30 – 10.45 am
3.	P-03	THE EVALUATION OF STREPTOCOCCUS MUTANS CONTENT OF SALIVA IN PATIENTS WITH RECURRENT ORAL ULCER	1. Nur Aini binti Zakaria 2. Nor Shamim Nabila binti Kamaruddin	10.45 – 11.00 am
4.	P-04	MOTHERS' ORAL HEALTH KNOWLEDGE, ATTITUDE AND PRACTICES OF THEIR PRESCHOOL CHILDREN	1. Noor Inani binti Jelani 2. Norain binti Mohamad Nor	11.00 – 11.15 am
5.	P-05	THE AWARENESS ON EMERGENCY MANAGEMENT OF TOOTH AVULSION INJURY AMONG PRIMARY SCHOOL TEACHERS	1. Nur Adibah Amani binti Mustapha 2. Nomidayah binti Shamsuri	11.15 – 11.30 am
6.	P-06	THE EARLY CHILDHOOD ORAL HEALTH IMPACT SCALE: ASSESSMENT OF ORAL HEALTH RELATED QUALITY OF LIFE AMONG MALAYSIAN PRESCHOOL CHILDREN	1. Nur Syafiqah binti Ismail 2. Nurul Murshidah binti Abdul Ghani	11.30 – 11.45 am
7.	P-07	DETERMINATION OF MSX1 GENETIC ALTERATION IN FAMILIAL WITH HYPODONTIA PROBAND	1. Nabilah binti Muhamad Zamil 2. Nor Aini binti Mohamed Yussof	11.45 – 12.00 pm
8.	P-08	ACCURACY OF CONE BEAM COMPUTED TOMOGRAPHY (CBCT) AS MODALITY TO IDENTIFY THE PRESENCE OF MB2 IN MAXILLARY FIRST MOLARS	1. Mazifa binti Mohidin 2. Nik Nur Farahiyah @ Hidayah binti Nik Zainal Abidin	12.00 – 12.15 pm

P-07

Determination of Msx1 Genetic Alteration in Familial with Hypodontia Proband

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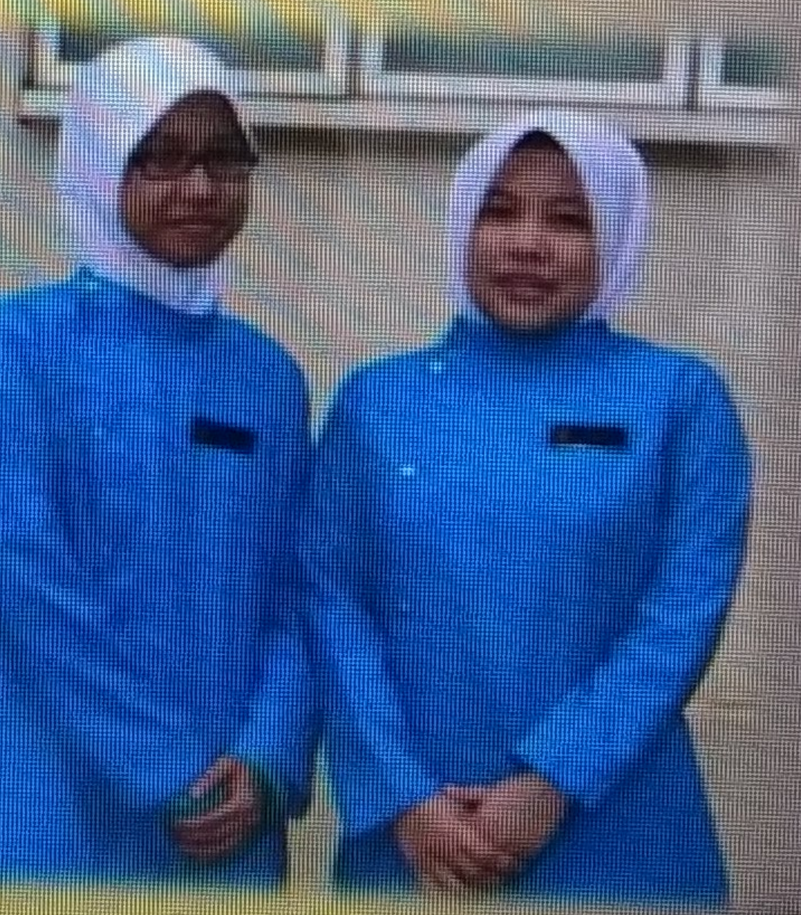
Introduction: Hypodontia is characterized by absence of one to six teeth. Malaysia has a high prevalence of hypodontia (2.8%). This study aimed to investigate the *MSX1* mutation with clinical variability in Malaysian hypodontia families and to correlate the findings with the previous study of *PAX9* mutation.

Materials and methods: We re-examined 12 individuals from three families of the previous *PAX9* study. Orthophantomogram (OPG) and intraoral photos were re-assessed. Saliva was collected for genetic analysis. Direct sequencing was done on exons 1 and 2 of *MSX1*.

Results: 2 out of 4 members (1A and 1D) in family 1 have anterior hypodontia. Point mutation on exon1 of *MSX1* (c.731G>A) was observed in 1A (father) and 1C (carrier-son). c.732G>A was found on exon1 of *MSX1* of his daughter (1D). Point mutation was also identified on exon2 of *PAX9* (1A;c608G>T, 1D;c.616G>T). In family 2, 3 out of 5 members are affected. Mother has posterior hypodontia, while the daughters have anterior hypodontia. Point mutations on exon1 of *MSX1* (c.599C>T, c.732G>A) and on exon3 of *PAX9* (c.465delG) were identified on 2B (mother) and 2D (second daughter). Her carrier-son (2E) exhibited; c.597C>T, c.730G>A on exon1 of *MSX1* and c.273T>G on exon3 of *PAX9*. For family 3, the daughter had missing lower premolar with point mutation on exon1 of *MSX1* (c.730G>A). Similar point mutation with her non-hypodontia father on exon2 of *PAX9* (c.628T>G) was observed.

Conclusion: Mutation of *MSX1* is observed in familial hypodontia. both *MSX1* and *PAX9* are needed to manifest hypodontia whereby *PAX9* is the predominant gene mutation.

Keywords: Hypodontia, *PAX9*, *MSX1*, Mutation