TITLE:

IDENTIFICATION OF MSX1 GENE MUTATION IN KELANTANESE PATIENTS WITH VARIOUS TYPES OF NON-SYNDROMIC CLEFT LIP AND PALATE

RESEARCH CENTER: Human Genome Center, School Of Medical Sciences, Universiti Sains Malaysia

CURRENT STATUS OF PROJECT : Ongoing

RESEARCHERS:

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TRACT RECORD :

Risk identification for MSX1 mutation in non-syndromic cleft lip and palate deformities for the formulation of prevention strategies

Introduction:

Orofacial cleft are congenital structural abnormalities of the lip and/or palate that affect between 1 in 2000 and 1 in 500 live births worldwide. In Kelantan, it effect 1 in 600 live births. MSX1 has been proposed as a gene in which mutations may contribute to non-syndromic forms of cleft lip and/or cleft palate. This gene is located in chromosome 4 at short arm, p16.3-p16.1. It has two exons that codes for a homeodomain-containing protein of 297 amino acids and one intron.

Objectives:

1. to determine the role of MSX1 gene in the incident of various type of non-syndromic cleft lip and/or palate
2. to determine the allele frequency of the loci on MSX1 gene among the cleft lip and/or palate patients in Kelantan

Methodology:

The MSX1 gene will be amplified using polymerase chain reaction (PCR). Bands in the electrophoresis gel show the normal patients while the absence of bands show the mutated MSX1 patients.

Expected outcome:

The association between MSX1 gene and various types of non-syndromic cleft lip and/or palate can be determined.