

INTISARI

POLIMORFISME GEN CLPTM1L/TERT DAN KONSUMSI MAKANAN YANG DIAWETKAN DAN DIBAKAR SEBAGAI FAKTOR RISIKO KARSINOMA NASOFARING DI YOGYAKARTA

Latar Belakang : Karsinoma nasofaring merupakan keganasan yang paling sering ditemukan pada kanker kepala dan leher dengan insidensi rendah di dunia (lebih kurang 1/100.000 individu pertahun), dan terdistribusi tidak merata berdasar geografi dan etnisitas. KNF ditengarai disebabkan oleh kondisi multifaktorial. Faktor risiko internal KNF berupa polimorfisme gen CLPTM1L/TERT rs31489 memiliki hubungan yang signifikan dengan kejadian KNF pada populasi Cina. Konsumsi makanan yang diawetkan dan dibakar merupakan salah satu faktor risiko eksternal yang dapat menyebabkan KNF.

Tujuan : Mengetahui hubungan polimorfisme gen CLPTM1L/TERT, konsumsi makanan yang diawetkan dan dibakar dengan risiko KNF.

Metode : Penelitian ini merupakan penelitian observasional analitik dengan rancangan kasus kontrol bersarang yang berbasis rumah sakit. Subjek penelitian terdiri dari kelompok kasus (n=130) dan kelompok kontrol (n=126). Data demografi dan paparan didapat dari kuesioner. Pemeriksaan polimorfisme gen CLPTM1L/TERT dilakukan dengan pembacaan hasil ARMS PCR (n=256). Uji beda proporsi data distribusi dilakukan dengan menggunakan uji *chi-square*. Analisis hubungan dilakukan dengan uji regresi logistik.

Hasil : Kelompok pasien KNF berusia lebih tua dibanding kelompok orang sehat dengan jumlah jenis kelamin laki-laki lebih banyak dibanding perempuan (rasio=3,2:1) dan mayoritas berasal dari suku Jawa. Tingkat pendidikan kelompok orang sehat lebih tinggi dibandingkan dengan kelompok pasien KNF ($p < 0,001$). Polimorfisme gen CLPTM1L/TERT pada alel heterozigot (CA) dan alel homozigot mutan (AA) memiliki hubungan protektif terhadap kejadian KNF (OR=0,385 , 95%CI=0,226-0,655 ; OR=0,951 , 95%CI=0,379-2,384). Konsumsi ikan asin 1-3 kali sebulan sampai tiap hari berkait dengan risiko KNF (OR=2,992 , 95%CI=1,636-5,473) dengan faktor pengganggu jenis kelamin dan pendidikan. Konsumsi mi instan 1-3 kali sebulan sampai tiap hari meningkatkan risiko KNF (OR=2,924 , 95%CI=1,400-6,107) dengan faktor pengganggu jenis kelamin, usia, dan tingkat pendidikan. Konsumsi daging bakar dengan frekuensi 1-3 kali sebulan sampai tiap hari memiliki efek protektif terhadap risiko KNF (OR=0,950, 95%CI=0,532-1,699) dengan faktor pengganggu tingkat pendidikan. Polimorfisme gen CLPTM1L/TERT rs31489 alel homozigot mutan (AA) dan konsumsi daging bakar atau mi instan sebanyak 1-3 kali sebulan sampai tiap hari memperlihatkan hubungan berupa peningkatan risiko KNF (OR = 1,842; 95%CI=0,439-7,734; OR=1,105; 95%CI=0,380-3,215), sedangkan polimorfisme gen CLPTM1L/TERT dan konsumsi ikan asin dengan frekuensi 1-3 kali sebulan sampai tiap hari memiliki efek protektif terhadap kejadian KNF (OR=0,670; 95%CI=0,171-2,626).

Kesimpulan : Polimorfisme gen CLPTM1L/TERT rs31489 memiliki hubungan protektif terhadap kejadian KNF. Konsumsi ikan asin dan mi instan sebanyak 1-3 kali sebulan sampai tiap hari meningkatkan risiko kejadian KNF secara berurutan sebesar 2,992 kali dan 2,924 kali dibanding populasi dengan frekuensi konsumsi tidak pernah sampai kurang dari sebulan sekali. Konsumsi daging bakar memberi efek protektif terhadap risiko KNF. Polimorfisme gen CLPTM1L/TERT rs31489 alel homozigot mutan (AA) dan konsumsi ikan asin dengan frekuensi sebanyak 1-3 kali sebulan sampai tiap hari memberi efek protektif terhadap kejadian KNF. Polimorfisme gen CLPTM1L/TERT rs31489 alel homozigot mutan (AA) dan konsumsi daging bakar atau mi instan sebanyak 1-3 kali sebulan sampai tiap hari meningkatkan risiko KNF.

Kata Kunci : Karsinoma Nasofaring, KNF, Polimorfisme, CLPTM1L, TERT, Konsumsi Makanan.

ABSTRACT

ASSOCIATION OF CLPTM1L / TERT GENE POLYMORPHISM, PRESERVED AND GRILLED FOOD CONSUMPTION AS RISK FACTORS OF NASOPHARYNGEAL CARCINOMA IN YOGYAKARTA

Background : Nasopharyngeal carcinoma is the most common head-and-neck malignancy with a low incidence in the world (approximately 1 / 100,000 individuals per year), and widespread based on geographical location and ethnicity. Nasopharyngeal carcinoma presumably caused by multifactorial conditions. Internal risk factors of NPC such as genetic polymorphism, has a significant association with the incidence of NPC in the Chinese population. Consumption of preserved and grilled food is one of the external risk factors that can lead to NPC.

Aim: To understand the association between CLPTM1L/TERT gene polymorphisms, preserved and grilled food consumption, and the risk of NPC.

Methods: This study was observational analytic study with a nested hospital-based case-control design. The subjects consisted of case group (n = 130) and control group (n = 126). Demographic and exposure data were obtained from questionnaires. CLPTM1L / TERT gene polymorphism was determined using ARMS PCR (n = 256). Difference-between-proportions test was performed using chi-square test. The association among populations was then analyzed using logistic regression.

Results: The NPC patient group was older in age than the healthy group with more male patients than female (ratio = 3.2: 1) and the majority were Javanese. The education level of the healthy group was higher than the NPC patient group (p <0.001). Heterozygous alleles (CA) and mutant homozygous alleles (AA) of CLPTM1L / TERT gene polymorphism had protective effect against the incidence of NPC (OR = 0.385, 95% CI = 0.226-0.655; OR = 0.951, 95% CI = 0.379-2.384). Consumption of salted fish 1-3 times a month to every-day basis was related to NPC risk (OR = 2,992, 95% CI = 1,636-5,473) with sex and education level as confounding factors. Consumption of instant noodles 1-3 times a month to every-day basis increased the risk of NPC (OR = 2.924, 95% CI = 1,400-6,107) with sex, age, and education level as confounding factors. The consumption of grilled meat with a frequency of 1-3 times a month to every-day basis had protective effect against NPC (OR = 0.950, 95% CI = 0,532-1,699) with education level as confounding factor. Mutant homozygous allele (AA) of CLPTM1L / TERT rs31489 gene polymorphism and consumption of grilled meat or instant noodles 1-3 times a month to every-day basis increased the risk of NPC (OR = 1,842; 95% CI = 0.439-7,734; OR = 1,105 95% CI = 0.380-3.215), whereas CLPTM1L / TERT gene polymorphism and salted fish consumption 1-3 times a month to every-day basis had protective effect against the incidence of NPC (OR = 0.670; 95% CI = 0.171-2.626).

Conclusion: CLPTM1L / TERT rs31489 gene polymorphism showed protective effect against NPC. Consumption of salted fish and instant noodles as frequent as 1-3 times a month to every-day basis increased the risk of NPC by 2.992 times and 2.924 times compared to those who consumed less than once a month. Grilled meat consumption had protective effect against NPC. Homozygous mutant alleles (AA) of CLPTM1L / TERT rs31489 gene polymorphism and salted fish consumption with a frequency of 1-3 times a month to every-day basis showed protective effect against NPC. Homozygous mutant alleles (AA) of CLPTM1L / TERT rs31489 gene polymorphism and grilled meat or instant noodles consumption as frequent as 1-3 times a month to every-day basis increased the risk of NPC.

Keywords: Nasopharyngeal Carcinoma, NPC, Polymorphism, CLPTM1L, TERT, Food Consumption.