

INTISARI

Latar Belakang: Penyalahgunaan alkohol dan intoksikasi alkohol dikaitkan dengan faktor genetik dan dipengaruhi oleh ras serta etnik tertentu. Gen penghasil enzim yang memetabolisme alkohol salah satunya CYP2E1 yang bekerja pada retikulum endoplasma ikut berpengaruh terhadap hal ini. CYP2E1 memiliki banyak jenis dan beberapa yang dinilai berperan besar pada metabolisme alkohol adalah CYP2E1*5B dan CYP2E1*6. Penelitian ini akan melihat polimorfisme gen CYP2E1*5B dan CYP2E1*6 serta menilai hubungannya dengan perilaku minum alkohol pada Etnis Papua di Yogyakarta.

Metode: Sebanyak 39 responden mahasiswa Etnis Papua yang memenuhi kriteria inklusi dilibatkan dalam penelitian. Responden yang telah menyetujui *informed consent* diwawancarai dan diambil sampel darahnya kemudian dilakukan isolasi DNA, pemeriksaan kadar DNA, elektroforesis, RFLP, dan penentuan polimorfisme. Perilaku minum diukur menurut rutinitas, frekuensi, volume, dan durasi. Analisis data menggunakan *chi square* untuk data kualitatif dan ANOVA untuk kuantitatif.

Hasil: Peminum alkohol didapatkan sebanyak 29 orang (74,4%) dan 10 orang (25,6%) merupakan bukan peminum. Peminum kebanyakan berusia remaja akhir (89,7%) dan berjenis kelamin pria (69,2%). Dari 39 sampel didapatkan jenis genotip CYP2E1*5B yaitu c1/c1 sebanyak 94,9%, c1/c2 sebanyak 5,1%, dan tidak ditemukan genotip c2/c2 pada etnis Papua. Untuk CYP2E1*6 didapatkan genotip T/T sebanyak 56,4%, genotip T/A sebanyak 43,6%, dan tidak ditemukan untuk genotip A/A. Odd ratio pada CYP2E1*5B adalah 18,5 dan 7,7 pada CYP2E1*6. Perilaku minum alkohol berupa frekuensi, durasi, jenis, dan volume alkohol yang dikonsumsi tidak berhubungan dengan jenis polimorfisme gen CYP2E1*5B dan CYP2E1*6.

Kesimpulan: Terdapat polimorfisme genotip c1/c1 dan c1/c2 pada CYP2E1*5B serta genotip T/T dan T/A pada CYP2E1*6 etnis Papua di Yogyakarta. Genotip c1/c1 memiliki kemungkinan 18,5 kali menjadi peminum alkohol dan genotip T/T memiliki kemungkinan 7,7 kali menjadi peminum alkohol pada etnis Papua. Jenis genotip tersebut secara statistik tidak memiliki hubungan yang signifikan terhadap perilaku minum alkohol pada subyek tersebut.

Kata Kunci: Alkoholisme, CYP2E1, Polimorfisme, Papua

ABSTRACT

Background: Alcohol abuse and alcohol intoxication are associated with genetic factors and influenced by certain races and ethnicities. One of the genes producing enzymes that metabolize alcohol is CYP2E1, which works on the reticulum endoplasmic. CYP2E1 has many types and some that are considered to play a major role in alcohol metabolism. They are CYP2E1*5B and CYP2E1*6. This study will look at the polymorphisms of CYP2E1*5B and CYP2E1*6 genes and see their relationship with alcohol drinking behavior in Papuan Ethnic in Yogyakarta.

Method: A total of 39 respondents of ethnic Papuan students who met the inclusion criteria were included in the study. Respondents were interviewed and their blood samples were taken and then underwent DNA isolation, DNA level examination, electrophoresis, RFLP, and polymorphism determination. Drinking behavior measured with routine, frequency, volume, and duration. Data analyzed by chi square for qualitative and ANOVA for quantitative data.

Results: Alcohol drinkers were found to be 29 people (74.4%) and 10 people (25.6%) were non-drinkers. Drinkers are mostly late teenagers (89,7%) and male (69,2%). From 39 samples, CYP2E1*5B genotypes were c1/c1 as 94.9%, c1/c2 as 5.1%, and genotypes c2/c2 were not found in Papuans ethnic. For CYP2E1*6 T/T genotypes were 56.4%, T/A genotypes were 43.6%, and were not found for A/A genotypes. Odd ratio for CYP2E1*5B were 18,5 and 7,7 for CYP2E1*6. Alcohol drinking behavior in the form of frequency, duration, type, and volume of alcohol consumed were not related to the type of CYP2E1*5B and CYP2E1*6 gene polymorphisms.

Conclusion: There are c1/c1 and c1/c2 genotype polymorphisms in CYP2E1*5B also T/T and T/A genotypes in CYP2E1*6 in Papuans ethnic at Yogyakarta. Genotype c1/c1 has 18,5 times possibility of being alcoholic drinkers and genotypes T/T has 7,7 times possibility of being alcoholic drinkers in Papuans ethnic. The type of genotype statistically did not have a significant relationship to alcohol drinking behavior on the subject.

Keywords: Alcoholism, CYP2E1, Polymorphism, Papua