



ABSTRACT

CORRELATION BETWEEN EXPRESSION OF Notch1 mRNA WITH TYPES OF OVARIAN CARCINOMA

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Background:

Ovarian carcinoma is one of many malignancies that can happen in woman. Recent classification group this tumor into type I and type II based on its traits and characteristics. Notch1 is a protein that play roles in cell proliferation and angiogenesis, but there was no previous study that shows whether Notch1 contribute to differentiation of ovarian carcinoma into type I and type II.

Aim:

This study aim to know the correlation between expression of Notch1 mRNA with type of ovarian carcinoma.

Method:

This study used 29 paraffin cell block of ovarian carcinoma. 17 samples are type I tumor and 12 samples are type II tumor. The RNA was extracted from the sample by using *Total RNA Mini Kit Geneaid*. Expression of Notch1 mRNA was measured by using *KAPA SYBR[®] Fast qPCR Kit*. The following primers were used: Notch1 forward 5'-GTCAACGCCGTAGATGACC-3', Notch1 reverse 5'-TTGTTAGCCCCGTTCTTCAG-3'; GAPDH forward 5'-GCATCCTGGGCTACACTGAG-3, GAPDH reverse 5'-TCCACCACCCTGTTGCTGTA-3'. Correlation between expression of Notch1 mRNA with types of ovarian carcinoma then was analyzed by Mann-Whitney test using IBM SPSS software.

Results:

The result of qRT-PCR showed that mean \pm SD of Notch 1 mRNA expression on type I tumor compare to normal tissue is 5.27 ± 3.33 and for type II tumor is 8.19 ± 4.43 . There was a slight significant difference between Notch1 mRNA expression on type I and type II as the p-value indicated a number of 0.054.

Conclusion:

This study revealed that there was a significant difference between Notch1 expression in type I and type II ovarian carcinoma. This means that Notch1 might contribute to differentiation of ovarian carcinoma into type I and type II tumor.

Keywords:

Notch1, mRNA, ovarian carcinoma, type I tumor, type II tumor



INTISARI

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Latar Belakang:

Kanker ovarium merupakan salah satu keganasan yang dapat terjadi pada wanita. Studi terbaru mengklasifikasikan tumor ini menjadi tipe I dan tipe II berdasarkan jenis sel tumor dan karakteristiknya. Notch1 merupakan sebuah protein yang berperan dalam proliferasi sel dan angiogenesis, akan tetapi belum ada studi yang menunjukkan apakah Notch1 berperan terhadap pembentukan kanker ovarium menjadi tipe I atau tipe II.

Aim:

Studi ini bertujuan untuk mengetahui korelasi antara ekspresi mRNA Notch1 dengan tipe karsinoma ovarium.

Metode:

Studi ini menggunakan 29 blok paraffin karsinoma ovarium. 17 sampel adalah tumor tipe I dan 12 sampel adalah tumor tipe II. RNA dari sample di ekstraksi menggunakan *Total RNA Mini Kit Geneaid*. Ekspresi mRNA Notch1 diukur dengan menggunakan *KAPA SYBR® Fast qPCR Kit*. Primer berikut digunakan dalam studi ini: Notch1 forward 5'-GTCAACGCCGTAGATGACC-3', Notch1 reverse 5'-TTGTTAGCCCCGTTCTTCAG-3'; GAPDH forward 5'-GCATCCTGGGCTACACTGAG-3', GAPDH reverse 5'-TCCACCACCTGTTGCTGTA-3'. Korelasi antara ekspresi mRNA Notch1 dengan tipe karsinoma ovarium kemudian dianalisis menggunakan Mann-Whitney Test menggunakan IBM SPSS software.

Hasil:

Hasil qRT-PCR menunjukkan bahwa mean \pm SD dari ekspresi mRNA Notch1 pada tumor tipe I dibandingkan dengan jaringan normal adalah 5.27 ± 3.33 . Sementara itu pada tumor tipe II adalah 8.19 ± 4.43 . Ditemukan perbedaan signifikan antara ekspresi mRNA Notch1 pada tumor tipe I dan tipe II ($p = 0.054$)

Kesimpulan:

Studi ini menunjukkan bahwa didapatkan perbedaan signifikan antara ekspresi mRNA Notch1 pada karsinoma ovarium tipe I dan tipe II. Hasil ini menunjukkan bahwa Notch1 mungkin berkontribusi terhadap diferensiasi kanker ovarium menjadi tumor tipe I atau tipe II.

Kata Kunci:

Notch1, mRNA, ovarian carcinoma, type I tumor, type II tumor