UNIVERSITAS
GADJAH MADA
HUBUNGAN EKSPRESI mRNA CXCR4 DENGAN USIA DAN UKURAN TUMOR PRIMER PADA KARSINOMA OVARIUM TIPE MUSINOSUM DAN SEROSUM HIGHGRADE
INTANNUARY PARINGGA, Dr. dr. Irianiwati, Sp.PA(K).; dr. Didik Setyo Heriyanto, SpPA.; PhD.
Universitas Gadjah Mada, 2018 | Diunduh dari http://etd.repository.ugm.ac.id/

ABSTRACT

Background:
Ovarian surface epithelial carcinoma accounts for only 3% of all cancer in women, but it has one of the highest death-to-incidence ratio. This lesions is classified into low grade (type I) and high grade (type II). Mucinous carcinoma is included in type I while high-grade serous carcinoma is in type II. Age and size of tumor included as prognosis factor in this carcinoma. Recent reports suggest that C-X-C chemokine receptor 4 (CXCR4) also plays a decisive role in tumor growth and metastasis in many cancer, including ovarian cancer, but the role in various histopathology ovarian cancer is still unclear.

Methods:
Samples were taken from Formalin-Fixed Parrafin-Embeded (FFPE) tissues; divided into 3 groups of cases which are mucinous carcinomas, high-grade serous carcinomas, and non neoplastic ovaries. Each group have 25, 26, and 25 samples, respectively. mRNA CXCR4 expression was obtained with Hybrid-Rtm protocol and One Step qRT-PCR procedure. The differences of mRNA Notch-1 expression each histopathology groups and its correlation with age and primary tumor size were analyzed by Kruskal wallis, Mann whitney, Pearson and Spearman test.

Results:
There was a significant difference of mRNA CXCR4 expression between carcinomas and non neoplastic ovaries ($p<0.0001$), with mean score 37.15 and 6.65, respectively. There was also showed significance result between non neoplastic ovaries, mucinous and high-grade serous carcinomas ($p<0.0001$), with high-grade serous carcinoma has the highest expression (mean: 61.34). There was no significant correlation of mRNA CXCR4 expression in mucinous and high-grade serous carcinomas with age ($p=0.109$; $p=0.359$), with positive and negative weak correlation ($rs=0.329$; $rs= -0.188$), respectively. While its correlation with primary tumor size also showed no significant correlation ($p=0.184$; $p=0.492$), with positive weak correlation ($rs=0.275$; $rs=0.141$).

Conclusion:
Expression of mRNA CXCR4 is significantly elevated in ovarian carcinomas. Its expression also has significantly different in non neoplastic ovaries, mucinous and high-grade carcinomas. There was no significant correlation with age and primary tumor size.

Keywords: Mucinous carcinoma, high-grade serous, mRNA CXCR4, age, primary tumor size

UNIVERSITAS
GADJAH MADA
HUBUNGAN EKSPRESI mRNA CXCR4 DENGAN USIA DAN UKURAN TUMOR PRIMER PADA KARSINOMA OVARIUM TIPE MUSINOSUM DAN SEROSUM HIGHGRADE
INTANNUARY PARINGGA, Dr. dr. Irianiwati, Sp.PA(K).; dr. Didik Setyo Heriyanto, SpPA.; PhD.
Universitas Gadjah Mada, 2018 | Diunduh dari http://etd.repository.ugm.ac.id/

INTISARI

Latar Belakang:
Karsinoma ovarium di Asia masih memiliki nilai morbiditas dan mortalitas tinggi. Karsinoma ini dikelompokkan menjadi tipe I (*low-grade*) dan tipe II (*high-grade*). Salah satu jenis karsinoma tipe I yaitu karsinoma musinosum dan tipe II yaitu karsinoma serosum *high-grade*. Usia dan ukuran tumor merupakan faktor prognosis karsinoma ovarium. Ekspresi C-X-C *chemokine receptor* 4 (CXCR4) berperan dalam proliferasi dan migrasi berbagai sel kanker, termasuk kanker ovarium. Peningkatan ekspresi CXCR4 berhubungan dengan ketahanan hidup yang rendah. Namun demikian, peran CXCR4 pada karsinogenesis epitel ovarium belum sepenuhnya dipahami.

Metode:
Sampel berupa jaringan *Formalin-Fixed Parrafin-Embedded* (FFPE) dari karsinoma musinosum, serosum *high-grade*, dan ovarium non neoplastik masing-masing berjumlah 25, 26 dan 25 sampel. Ekspresi mRNA CXCR4 diperoleh dengan protokol *Hybrid-Rtm* dan *One Step* qRT-PCR kemudian hasil dan korelasinya dengan usia dan ukuran tumor primer dianalisis dengan uji *Kruskal Wallis*, *Mann whitney*, korelasi *Pearson* dan *Spearman*.

Hasil:
Ekspresi mRNA CXCR4 antara karsinoma ovarium dengan ovarium non neoplastik didapatkan perbedaan bermakna ($p<0,0001$), dengan nilai rerata 37,15 dan 6,65. Perbedaan ekspresi mRNA CXCR4 antara ovarium non neoplastik, karsinoma musinosum dan serosum *high-grade* juga didapatkan perbedaan bermakna ($p<0,0001$), dimana ekspresi tertinggi pada karsinoma serosum *high-grade* (nilai rata-rata: 61,34). Korelasi ekspresi mRNA CXCR4 pada karsinoma musinosum dan serosum *high-grade* dengan usia tidak bermakna ($p=0,109$ dan $p=0,359$), masing-masing dengan kekuatan korelasi positif dan negatif yang lemah ($rs= 0,329$ dan $rs= -0,188$). Korelasinya dengan ukuran tumor juga menunjukkan hasil tidak bermakna ($p=0,184$ dan $p=0,492$), masing-masing dengan kekuatan korelasi positif yang lemah ($rs= 0,275$ dan $rs= 0,141$).

Kesimpulan:
Ekspresi mRNA CXCR4 meningkat bermakna pada karsinoma ovarium dibandingkan ovarium non neoplastik. Ekspresinya juga meningkat bermakna pada karsinoma serosum *high-grade* dibandingkan karsinoma musinosum dan ovarium non neoplastik. Ekspresi mRNA CXCR4 pada karsinoma musinosum dan karsinoma serosum *high-grade* tidak berkorelasi secara bermakna dengan usia dan ukuran tumor primer.

Kata kunci: Karsinoma musinosum, serosum *high-grade*, mRNA CXCR4, usia, ukuran tumor primer