INTISARI

Latar Belakang: Aktivasi *Gonadotropin-releasing hormone receptor type* II (GnRHR-II) menunjukkan aktivitas antiproliferatif. GnRHR-II tidak hanya diekspresikan secara eksklusif di pituitari, namun juga di berbagai tumor. Hingga saat ini, relevansi klinis GnRHR-II pada tumor ovarium belum diketahui. Selain itu, hanya ada sedikit literatur yang membahas tentang GnRHR-II pada tumor ovarium terutama jenis langka.

Tujuan Penelitian: mengkaji hubungan antara ekspresi GnRHR-II dengan klinikopatologi dan aktivitas proliferasi tumor ovarium langka.

Metode: Penelitian ini merupakan penelitian observasional analitik dengan desain *cross sectional* menggunakan 18 sampel tumor ovarium pada *tissue microarray* (TMA). Ekspresi GnRHR-II dan Ki67 dinilai menggunakan pewarnaan imunohistokimia (IHK) dan diamati menggunakan bantuan perangkat lunak ImageJ plugin IHC profiler untuk memperoleh H-score masing-masing. Hubungan ekspresi GnRHR-II dengan klinikopatologi dianalisis menggunakan *independent t-test* (2 variabel) atau ANOVA (>2 variabel). Korelasi GnRHR-II dan Ki67 dianalsis menggunakan uji Pearson, dan hubungan keduanya dianalisis menggunakan *Fisher's exact test.* Nilai p<0,05 dianggap bermakna secara statistik.

Hasil Penelitian: GnRHR-II diekspresikan secara bervariasi pada tumor ovarium, membuktikan bahwa GnRHR-II juga diekspresikan di ekstrapituitari. Ekspresi GnRHR-II paling tinggi pada kelompok *sex cord stromal tumor* (SCST) yaitu sebesar $110,30 \pm 23,89$ (p<0,0001). Selain itu juga didapatkan perbedaan bermakna antara ekspresi GnRHR-II dengan usia (p<0,001) dan tumor primer (p<0,05), namun tidak dengan jenis tumor (p=0,101). Terdapat korelasi antara ekspresi GnRHR-II dengan aktivitas proliferasi (r = -0,043, p=0,866).

Kesimpulan: Ekspresi GnRHR-II memiliki hubungan bermakna dengan klinikopatologi TMA tumor ovarium yang meliputi tipe histopatologi, usia, dan tumor primer. Ekspresi GnRHR-II tinggi berkorelasi dengan aktivitas proliferasi rendah, dengan kekuatan korelasi sangat lemah.

Kata Kunci: aktivitas proliferasi, GnRHR-II, Ki67, tumor ovarium langka, TMA.

ABSTRACT

Background: *Gonadotropin-releasing hormone receptor type II (GnRHR-II) activation shows antiproliferative activity. GnRHR-II is not only expressed exclusively in the pituitary, but also in a variety of tumors. Until now, the clinical relevance of GnRHR-II in ovarian tumors is unknown. Moreover, there is little literature that discusses GnRHR-II in ovarian tumors, especially rare types.*

Objectives: *to analyze the correlation between GnRHR-II expression and clinicopathology and proliferative activity of rare ovarian tumors.*

Methods: *This study was an analytic observational study with a cross-sectional design using 18 ovarian tumor samples on tissue microarray (TMA). The expression of GnRHR-II and Ki67 was assessed using immunohistochemical staining (IHC) and observed using the IHC profiler plugin ImageJ software to obtain their respective H-scores. Analysis of GnRHR-II expression by clinicopathology using independent t-test (2 variables) or ANOVA (> 2 variables). GnRHR-II and Ki67 correlations were analyzed using Pearson's test, and their relationship was analyzed using Fisher's exact test. The value of p<0.05 was considered statistically significant.*

Results: *GnRHR-II is expressed in ovarian tumors, providing that GnRHR-II is also expressed extrapituitary. GnRHR-II expression was highest in the sex cord stromal tumor (SCST) group, 110.30 ± 23.89 (p<0.0001). There was also a significant difference between GnRHR-II expression with age (p<0.001) and the primary tumor (p<0.05), but not with tumor type (p=0.101). There is a correlation between GnRHR-II expression and proliferation activity (r = -0.043, p=0.866).*

Conclusion: *GnRHR-II expression has a significant relationship with the clinicopathology of TMA ovarian tumors including histopathological type, age, and primary tumor. High GnRHR-II expression is correlated with low proliferation activity, with very weak correlation strength.*

Keywords: *proliferative activity, GnRHR-II, Ki67, rare ovarian tumor, TMA.*