

INTISARI

KORELASI EKSPRESI HEPARANASE DAN JUMLAH PROLIFERASI SEL PADA STROMA TUMOR OVARIUM EPITELIAL JINAK DAN GANAS

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Latar belakang: Karsinoma ovarium merupakan keganasan ginekologi dengan rasio kefatalan kasus tertinggi pada wanita. Heparanase adalah enzim yang dapat mendegradasi *heparan sulfate proteoglycans* sehingga memudahkan sel tumor menembus membrana basalis dan melakukan metastasis. Ekspresi heparanase dan proliferasi sel stroma diketahui sama-sama meningkat pada tumor ovarium epitelial ganas. Namun, hubungan di antara keduanya masih belum diketahui secara pasti.

Tujuan: Mengkaji tingkat ekspresi heparanase, proliferasi sel, serta korelasi antara keduanya pada stroma tumor ovarium epitelial jinak dan ganas.

Metode: *Studycross-sectional* analitik ini menggunakan 12 jaringan tumor ovarium epitelial jinak dan 18 ganas. Masing-masing diberi pengecatan dengan IHC heparanase dan Ki-67. Dari masing-masing preparat diambil 10 foto stroma secara acak dengan perbesaran 400x. Ekspresi heparanase dan proliferasi sel diukur menggunakan program *ImageJ*. Kemudian hasilnya dibandingkan dan dianalisis secara statistik.

Hasil: Ekspresi heparanase didapati lebih tinggi pada tumor ovarium epitelial ganas dibanding jinak dengan nilai masing-masing 36.38% dan 34.03%, walaupun perbedaan tersebut tidak bermakna secara statistik ($p = 0,366$). Rata-rata persentase sel stroma positif IHC Ki-67 adalah 31,03% pada tumor ganas, lebih tinggi daripada tumor jinak sebesar 6,42% ($p = 0,000$). Tidak didapati korelasi antara ekspresi heparanase dengan proliferasi sel pada stroma tumor ovarium epitelial jinak dan ganas ($p = 0,587$).

Kesimpulan: Ekspresi heparanase didapati lebih tinggi pada tumor ovarium epitelial ganas dibanding jinak, walaupun tidak ditemukan korelasi signifikan antara ekspresi heparanase dengan proliferasi sel.

Kata kunci: heparanase, proliferasi, Ki-67, stroma, tumor ovarium

ABSTRACT

CORRELATION OF HEPARANASE EXPRESSION WITH CELL PROLIFERATION IN STROMA OF BENIGN AND MALIGNANT OVARIAN TUMOR

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Background: Ovarian carcinoma is a gynecological malignancy with the highest case fatality ratio in women. Heparanase is an enzyme that degrades heparan sulfate proteoglycans to facilitate tumor cells penetration and their metastasis. Heparanase expression and stromal cell proliferation are increased in malignant epithelial ovarian tumors. Nevertheless, the correlation between those two has not been fully elucidated.

Objective: To investigate the level of heparanase expression, cell proliferation and their correlation in benign and malignant ovarian tumor's stroma.

Method: This was a cross-sectional analytic study using using 12 benign and 18 malignant epithelial ovarian tumors' tissues. Each sample was stained using IHC heparanase and Ki-67. From each sample, 10 pictures of tumor's stroma were taken randomly with magnification of 400x. Heparanase expression and cell proliferation were measured using *ImageJ* software. The results were compared and statistically analyzed.

Result: Expression of heparanase was found to be higher in malignant epithelial ovarian tumors compared to benign tumors with 36.38% and 34.03% respectively, although the differences were not statistically significant ($p = 0,366$). The average percentage of stromal cells positively stained with IHC for Ki-67 was 31.03% for malignant tumors, higher than the benign tumors with only 6.42% ($p = 0,000$). Neither benign nor malignant ovarian tumors' stroma showed significant correlation between the expression of heparanase and cell proliferation ($p = 0,587$).

Conclusion: Expression of heparanase was higher in malignant epithelial ovarian tumors compared to benign tumors, however the expression of heparanase has no significant correlation with cell proliferation.

Keywords: heparanase, proliferation, Ki-67, stroma, ovarian tumor