

Perbedaan ekspresi Matrix Metalloproteinase-2 pada Malignant Peripheral Nerve Sheath Tumor derajat tinggi dan derajat rendah dan hubungannya dengan faktor prognostik = The different expression of Matrix Metalloproteinase-2 in high and low grade Malignant Peripheral Nerve Sheath Tumor and its correlation with prognostic factors

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Abstrak

[ABSTRAK

Latar belakang: Malignant peripheral nerve sheath tumor (MPNST) adalah sarkoma jaringan lunak yang sulit dibedakan dengan beberapa sarkoma sel spindle karena morfologinya yang serupa. MPNST bersifat agresif dengan angka rekurensi yang tinggi dan cenderung bermetastasis terutama ke paru. Salah satu tahap metastasis adalah invasi dengan cara mendegradasi matriks ekstraseluler dimana Matrix Metalloproteinase (MMP) memainkan peranan penting dalam proses ini. MMP tipe gelatinase yaitu MMP-2 dan MMP-9 memiliki kemampuan dalam mendegradasi membran basal dan kolagen fibrilar sehingga dapat membuka jalur invasi bagi sel tumor. MMP-2 mampu mendegradasi lebih banyak tipe kolagen dan MES non kolagen dibandingkan MMP-9. Penelitian ini bertujuan untuk menilai hubungan antara peningkatan ekspresi MMP-2 dengan derajat keganasan histologik dan variabel prognostik klinis lainnya.

Bahan dan cara: Dilakukan pulasan imunohistokimia MMP-2 pada 39 kasus yang terdiri atas 19 MPNST derajat rendah dan 20 MPNST derajat tinggi. Selanjutnya dilakukan analisis hubungan antara peningkatan ekspresi MMP-2 dengan derajat keganasan dan variabel klinis seperti usia, jenis kelamin, ukuran dan lokasi tumor.

Hasil: Peningkatan ekspresi MMP-2 ditemukan pada 19 (95%) kasus MPNST derajat tinggi dan 3 kasus (15,8%) kasus MPNST derajat rendah ($p=0.000$). Terdapat hubungan yang kuat antara peningkatan ekspresi MMP-2 dengan derajat keganasan MPNST. Tidak ditemukan hubungan antara ekspresi MMP-2 dengan jenis usia, jenis kelamin, ukuran dan lokasi tumor.

Kesimpulan: Peningkatan ekspresi MMP-2 sejalan dengan peningkatan derajat histologik, sehingga dapat digunakan untuk membantu menentukan progresifitas MPNST.

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ABSTRACT

Background: Malignant peripheral nerve sheath tumor (MPNST) is a sarcoma that is difficult to differentiate with other spindle cell sarcomas, because of their similar morphology. The behavior of MPNST is aggressive, with a high recurrence and tend to metastases hematogenous, especially to lung. Important step of metastases is invasion by degradating extracellular matrix, in which Matrix Metalloproteinase (MMP) play important role in this process. Gelatinase type of MMP, MMP-2 and MMP-9 have ability to degrade basal membrane and fibrilar collagen, in order to open the way of invasion. MMP-2 can degrade type collagen and non collagen extracellular matrix than MMP-9. The aim of this study is to see the correlation between expression of MMP-2 and histopathology grading and other prognostic clinical variables.

Methods: This study enrolled 39 cases of consisted of 19 low grade MPNST and 20 high grade MPNST. The case were stained for MMP-2 immunohistochemistry and the expression of MMP-2 were scored.

Analysis the correlation between over expression of MMP-2 and histopathology grading and other clinical variables , such as age, sex, size and location of the tumor.

Results: Overexpression of MMP-2 was observed in 19 (95%) cases of high grade MPNST and 3 (15,8%) cases of low grade MPNST ($p=0.000$). There is a significant correlation between MMP-2 over expression and histopathology grade. There is no correlation between MMP-2 expression and age, sex, siize and location of tumor.

Conclusion: High expression of MMP-2 is in parallel with high histologic grade, therefore it may be of additional use as prognostic factor., ackground: Malignant peripheral nerve sheath tumor (MPNST) is a sarcoma that is difficult to differentiate with other spindle cell sarcomas, because of their similar morphology. The behavior of MPNST is aggressive, with a high recurrence and tend to metastases hematogenous, especially to lung. Important step of metastases is invasion by degradating extracellular matrix, in which Matrix Metalloproteinase (MMP) play important role in this process. Gelatinase type of MMP, MMP-2 and MMP-9 have ability to degrade basal membrane and fibriler collagen, in order to open the way of invasion. MMP-2 can degrade type collagen and non collagen extracellular matrix than MMP-9. The aim of this study is to see the correlation between expression of MMP-2 and histopathology grading and other prognostic clinical variables

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