

# Hubungan antara Ekspresi CD44 dan MT1-MMP dengan status metastasis kelenjar getah bening pada karsinoma payudara invasif No Special Type (NST). = Association of CD44 and MT1-MMP expression with lymph node metastasis in invasive breast carcinoma of No Special Type

Kristina Anna bethania, author

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## Abstrak

Latar Belakang: Kanker payudara merupakan jenis kanker yang paling umum terjadi pada wanita dan penyebab kematian kanker yang paling sering terjadi. Status kelenjar getah bening (KGB) merupakan faktor prognostik dan penentu pilihan tatalaksana pasien kanker payudara. Biomarka untuk memprediksi metastasis KGB sampai saat ini belum akurat. Beberapa biomarka yang berhubungan dengan agresivitas dan prediksi metastasis yaitu CD44 (Cluster of Differentiation 44) dan MT1-MMP (Membrane Type 1- Matrix Metalloproteinase). Ekspresi CD44 dan MT1-MMP yang tinggi berhubungan dengan sifat yang lebih agresif dan prognosis yang buruk sehingga dibutuhkan biomarka tumor yang dapat memberikan informasi adanya metastasis KGB.

Tujuan: Penelitian ini bertujuan untuk mengetahui hubungan ekspresi CD44 dan MT1-MMP pada metastasis kelenjar getah bening karsinoma payudara invasif NST.

Metode: Penelitian analitik observasional dengan desain potong lintang pada sediaan operasi mastektomi kasus karsinoma payudara invasif NST di RSCM periode Januari 2019 sampai Juni 2020. Sampel penelitian dibagi menjadi 2 kelompok, yaitu 24 kasus karsinoma payudara invasif NST dengan metastasis kelenjar getah bening dan 24 kasus karsinoma payudara invasive NST tanpa metastasis kelenjar getah bening. Pengambilan sampel penelitian dilakukan secara simple random sampling dari kasus yang memenuhi kriteria inklusi dan tidak termasuk kriteria eksklusi. Dilakukan pulasan imunohistokimia CD44 dan MT1-MMP dan dilakukan perhitungan jumlah sel yang terpulask positif. Analisis statistik Chi Square dan Kruskal Wallis dilakukan diantara dua kelompok tersebut.

Hasil : Terdapat perbedaan bermakna ekspresi CD44 pada karsinoma payudara invasif No Special Type dengan dan tanpa metastasis kelenjar getah bening ( $p=0,009$ ). Terdapat perbedaan bermakna ekspresi MT1-MMP pada karsinoma payudara tipe invasive carcinoma of No Special Type dengan dan tanpa metastasis kelenjar getah bening ( $p=0,032$ ). Serta adanya hubungan overekspresi CD44 dan MT1-MMP pada metastasis kelenjar getah bening ( $p=0,000$ )

Kesimpulan : Terdapat hubungan bermakna antara ekspresi CD44 dan MT1-MMP pada karsinoma payudara invasif NST dengan status metastasis kelenjar getah bening.

.....Background: Breast cancer is the most common type of cancer in women and the most common cause of cancer death. Lymph node status (KGB) is a prognostic factor and determinant of treatment options for breast cancer patients. The biomarker for predicting lymph node metastasis is not accurate until this time. Several biomarkers associated with aggressiveness and metastatic prediction are CD44 (Cluster of Differentiation44) and MT1-MMP (Membrane Type 1-Matrix Mettaloproteinase). The high expression of CD44 and MT1-MMP is associated with a more aggressive nature and poor prognosis. The tumor biomarkers are needed to provide information on the presence of lymph node metastases.

**Aims:** This study aims to determine the relationship between CD44 and MT1-MMP expression on lymph node metastases of invasive breast cancer NST.

**Method:** An observational analytic study with a cross-sectional design on a mastectomy operation for invasive breast carcinoma NST cases at RSCM from January 2019 to June 2020. The study sample was divided into 2 groups, 24 cases of NST invasive breast carcinoma with lymph node metastases and 24 cases of invasive breast carcinoma NST without lymph node metastases. The research sample was taken by simple random sampling of cases that met the inclusion criteria and did not include the exclusion criteria. CD44 and MT1-MMP immunohistochemical staining were performed and the number of cells stained positively was calculated. Chi-Square and Kruskal Wallis statistical analysis was performed between the two groups.

**Results:** There was a significant difference in the expression of CD44 in invasive breast carcinoma NST with and without lymph node metastases ( $p = 0.009$ ). There was a significant difference in the expression of MT1-MMP in invasive carcinoma of No Special Type breast carcinoma with and without lymph node metastases ( $p = 0.032$ ). And there is a relationship between CD44 and MT1-MMP overexpression in lymph node metastases ( $p = 0.000$ )

**Conclusion:** There was a significant relationship between CD44 and MT1-MMP expression in invasive breast carcinoma NST and lymph node metastasis status.