TESIS

HUBUNGAN EKSPRESI *HUMAN EPIDERMAL GROWTH FACTOR RECEPTOR* 2 (HER2) DENGAN EKSPRESI E-CADHERIN (CDH1) PADA PASIEN KANKER PAYUDARA

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ABSTRAK

Hubungan Ekspresi Human Epidermal Growth Factor Receptor 2 (HER2) dengan Ekspresi E-Cadherin (CDH1) pada Pasien Kanker Payudara

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Kanker payudara merupakan penyebab kematian tertinggi terkait kanker pada perempuan baik di negara maju maupun berkembang. Human epidermal growth factor receptor 2 (HER2) merupakan proto oncogene yang mengaktivasi jalur Ras/Raf/mitogen-activated protein kinase (MAPK) dan phosphoinositide 3-kinase/Akt (PI3K/Akt). Aktivasi jalur tersebut menyebabkan proliferasi, survival, diferensiasi, angiogenesis, dan invasi sel tumor. E-cadherin dianggap memiliki sifat penekan tumor (suppressor tumor gene) di mana ketiadaannya dikaitkan dengan karsinogenesis dan metastasis. Hingga saat ini, efek sinergis dari kompleks HER2/E-Cadherin ini masih belum diklarifikasi dengan baik. Penelitian ini bertujuan untuk menganalisis hubungan ekspresi Human Epidermal Growth Factor Receptor 2 (HER2) dengan ekspresi E-Cadherin (CDH1) pada pasien kanker payudara. Penelitian ini menggunakan rancangan penelitian cross-sectional study dengan jumlah sampel sebanyak 56 blok parafin jaringan yang telah diperiksa HER2. Selanjutnya, pemeriksaan ekspresi E-cadherin dilakukan dengan teknik pewarnaan Imunohistokimia dengan metode Labeled Streptavidin Biotin Complex (LSAB). Analisis bivariat dilakukan dengan uji korelasi spearman dengan data terdistribusi tidak normal ($p>0,05$). Didapatkan hasil bahwa sebagian besar kasus kanker payudara terdiagnosis pertama kali pada kelompok usia 50-59 tahun (46,4%) dengan rata-rata usia 52,6 tahun. Stadium terbanyak adalah IIIB, yaitu 42,9% dari total 56 pasien. Sebanyak 80,0% pasien dengan HER2 positif merupakan kelompok E-cadherin kuat. Dari hasil penelitian diketahui ada kecenderungan semakin tinggi ekspresi HER2 maka semakin kuat ekspresi E-cadherin. Namun, pada hasil uji statistik tidak terdapat hubungan ($p>0,05$).

Kata kunci: E-cadherin; HER2; kanker payudara

ABSTRACT

Relations of Human Epidermal Growth Factor Receptor 2 (HER2) Expression and E-Cadherin (CDH1) Expression in Breast Cancer Patients

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Breast cancer is the leading cause of cancer-related deaths in women in both developed and developing countries. Human epidermal growth factor receptor 2 (HER2) is a proto-oncogene that activates the Ras / Raf / mitogen-activated protein kinase (MAPK) and phosphoinositide 3-kinase / Akt (PI3K / Akt) pathways. Activation of these pathways causes proliferation, survival, differentiation, angiogenesis and invasion of tumor cells. E-cadherin is thought to have tumor suppressor properties (tumor suppressor gene) where its absence is associated with carcinogenesis and metastasis. To date, the synergistic effect of this HER2/E-Cadherin complex is not well clarified. This study aims to analyzed the relations between the expression of Human Epidermal Growth Factor Receptor 2 (HER2) and the expression of E-Cadherin (CDH1) in breast cancer patients. The study design was a cross-sectional study with a total sample of 56 tissue paraffin blocks that had been examined for HER2. Furthermore, the examination of E-cadherin expression was carried out using the Immunohistochemical staining technique with the Labeled Streptavidin Biotin Complex (LSAB) method. Bivariate analysis was performed using Spearman correlation test with abnormally distributed data ($p > 0.05$). It was found that most cases of breast cancer were diagnosed for the first time in the 50-59 years age group (46.4%) with an average age of 52.6 years. The highest stage was IIIB, which was 42.9% of the total 56 patients. At least, 80.0% of the HER2 positive patients were in the strong E-cadherin group. From the research results, it was known that there is a tendency that the higher the HER2 expression, the stronger the E-cadherin expression. However, the statistical test results have no relations ($p>0,05$).

Key words: E-cadherin; HER2; breast cancer