

## **ANALISIS PENGARUH *BODY MASS INDEX (BMI)* PRE-KEMOTERAPI TERHADAP KESINTASAN PASIEN *TRIPLE NEGATIVE BREAST CANCER (TNBC)* DI RSUP DR. SARDJITO**

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### **INTISARI**

**Latar belakang:** Kanker payudara merupakan jenis kanker yang menempati urutan kedua paling banyak terjadi di dunia dan memiliki 4 sub tipe molekular, salah satunya jenis *triple negative*. *Triple negative breast cancer* (TNBC) memiliki hasil ekspresi gen ER, PR, dan HER-2 negatif serta memiliki prognosis yang terbilang buruk. Pasien TNBC dengan BMI prekemoterapi tinggi memiliki tingkat kesintasan yang lebih rendah akibat terganggunya sumbu insulin-leptin-adiponektin.

**Tujuan:** Mengetahui pengaruh BMI pre-kemoterapi terhadap kesintasan menyeluruh pasien *triple negative breast cancer* (TNBC).

**Metode:** Penelitian ini menggunakan desain studi kohort retrospektif dengan data registri klinis pasien TNBC di RSUP Dr. Sardjito yang terdiagnosis sejak tahun 2014 – 2018 sebanyak 97 sampel. Analisis statistik dilakukan pada variabel BMI prekemoterapi dan lainnya menggunakan uji *chi square* dan *survival analysis* yaitu grafik Kaplan Meier dengan *log rank test* dan uji *cox regression proportional hazard models* untuk melihat *hazard ratio* menggunakan perangkat lunak SPSS.

**Hasil:** Berdasarkan uji *chi square* dan uji *cox regression* diketahui bahwa tidak ada hubungan statistik antara BMI prekemoterapi dengan kesintasan pasien (nilai  $p = 0,632$ ) dan bukan faktor prognostik TNBC (nilai  $p = 0,949$ ). Risiko kematian antara kelompok *overweight* – obesitas ( $BMI \geq 23 \text{ kg/m}^2$ ) dan kelompok *underweight* – normal ( $< 23 \text{ kg/m}^2$ ) hampir sama ( $HR = 1,022$ ). Dari hasil subanalisis *overweight* – obesitas diketahui bahwa kedua sub kategori memiliki risiko kematian yang hampir sama pula ( $HR = 1,062$ ). Grafik Kaplan-Meier menunjukkan *3-years overall survival* kedua kelompok pasien TNBC sama yaitu 51,4%.

**Kesimpulan:** BMI prekemoterapi tidak berpengaruh secara statistik terhadap kesintasan pasien TNBC dan bukan faktor prognostik yang signifikan. Kelompok *overweight* – obesitas dan *underweight* -normal memiliki *3-years overall survival* yang sama.

**Kata Kunci:** kanker payudara, *triple negative breast cancer*, BMI pre-kemoterapi, prognostik, kesintasan, *overall survival*

## **ANALYSIS OF PRE-CHEMOTHERAPY BODY MASS INDEX EFFECT ON TRIPLE NEGATIVE BREAST CANCER PATIENTS SURVIVAL IN RSUP DR. SARDJITO**

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### **ABSTRACT**

**Background:** Breast cancer is a cancer that take place second position the most frequent cancer in the world and it has 4 molecular subtype, which one of them is triple negative. Triple negative breast cancer (TNBC) has negative results of ER, PR, and HER-2 gene expression and it has poor prognosis. High prechemotherapy body mass index in triple negative breast cancer patients gives lower survival rate caused by disturbance of insulin-leptin-adiponectin axis.

**Objective:** To determine the effect of prechemotherapy BMI towards overall survival of triple negative breast cancer patients.

**Method:** This research use retrospective cohort study design with clinical registry of TNBS patients in RSUP Dr. Sardjito that has been diagnosed since 2014 – 2018 as much as 97 samples. Statistical analysis was carried out between prechemotherapy BMI and other variables using chi-square test and survival analysis which are Kaplan-Meier with log rank test and cox regression proportional hazard models test to determine the hazard ratio by SPSS software.

**Result:** Based on chi-square test and cox regression test, there is no statistically significant relationship between prechemotherapy BMI and patient's survival ( $p$  value = 0,632) and it is not a prognostic factor of TNBC ( $p$  value = 0,949). Hazard ratio between overweight – obesity group ( $BMI \geq 23 \text{ kg/m}^2$ ) and underweight – normal group ( $< 23 \text{ kg/m}^2$ ) is nearly similar ( $HR = 1,022$ ). From subanalysis of overweight – obesity group, it was known that both subcategory also have closely similar hazard ratio ( $HR = 1,062$ ). Kaplan-Meier graphic shows that 3-years overall survival rate of TNBC patients in both group is equal in 51,4%.

**Conclusion:** Prechemotherapy BMI has not statistically effect towards TNBC patient's survival and it is not significant prognostic factor. Both overweight – obesity and underweight – normal group have equal 3-years overall survival.

**Keyword:** *breast cancer, triple negative breast cancer, prechemotherapy BMI, prognostic, survival, overall survival*