



## ABSTRACT

**Background:** Ovarian cancer is a common gynecological malignancy in women. Patients with ovarian cancer often experience a decrease in albumin levels, which is closely related to malnutrition. Measuring albumin levels, as an easy and affordable parameter, can be used to assess the nutritional status of cancer patients. An increase in cancer stage along with a decrease in albumin levels raises awareness of the progressiveness of ovarian cancer.

**Objective:** To evaluate the relationship between stage and albumin levels in ovarian cancer patients at Dr. Sardjito General Hospital

**Methods:** This cross-sectional study using secondary data included ovarian cancer patients who were first diagnosed histopathologically at Dr. Sardjito General Hospital in 2019–2020, aged >18 years, and had albumin levels, while patients with other malignancies, infections, or liver disorders were excluded. The correlation between stage and non-normally distributed albumin levels was analyzed using the Spearman test at a significance level of  $p < 0.05$ .

**Results:** A total of 86 ovarian cancer patients who met the inclusion and exclusion criteria were identified. A significant difference was found between the albumin  $\geq 3.5$  g/dL group and the albumin  $< 3.5$  g/dL group in terms of age characteristics with a median  $p = 0.020$ , FIGO stage  $p < 0.001$ , progression stage  $p = 0.001$ , and histopathological type  $p = 0.034$ . Significant differences were found based on albumin levels with FIGO stage with a median (min-max) of 3.88 (2.58-5.03)  $p < 0.001$  in stage I, 3.61 (2.58-4.26)  $p = 0.003$  in stage II, 3.46 (2.49–4.61)  $p < 0.001$  in stage III, 3.08 (2.28–3.74)  $p < 0.001$  in stage IV, progression stage 3.83 (2.58–5.02)  $p = 0.001$  in early stage, 3.54 (2.28–5.03) in advanced stage, based on histopathological type 3.47 (2.28–5.03)  $p < 0.001$  in epithelial type, 3.84 (3.46–4.01)  $p < 0.001$  in non-epithelial. A negative correlation was found between stage and albumin levels, with  $\rho = -0.428$  ( $p < 0.001$ ).

**Conclusion:** There was a significant moderate negative correlation between stage and albumin levels in ovarian cancer.

**Keywords:** ovarian cancer, stage, albumin, malnutrition



## INTISARI

**Latar Belakang:** Kanker ovarium merupakan keganasan ginekologi pada wanita. Pasien dengan keganasan ovarium sering terjadi penurunan kadar albumin yang erat kaitannya pada kejadian malnutrisi. Pengukuran kadar albumin sebagai parameter yang mudah dan harga terjangkau dapat digunakan untuk menilai status nutrisi pasien kanker. Bertambahnya stadium kanker seiring dengan penurunan kadar albumin memberikan kewaspadaan terhadap progresivitas kanker ovarium.

**Tujuan:** Mengevaluasi korelasi antara stadium dengan kadar albumin pada pasien kanker ovarium di RSUP Dr. Sardjito.

**Metode:** Penelitian potong lintang dengan data sekunder ini menginklusikan pasien kanker ovarium yang terdiagnosis pertama kali secara histopatologis di RSUP Dr. Sardjito tahun 2019-2020, usia >18 tahun dan memiliki hasil kadar albumin, sedangkan pasien dengan keganasan lainnya, infeksi, gangguan hepar di eksklusi. Korelasi antara stadium dengan kadar albumin yang tidak terdistribusi normal dianalisis dengan uji *Spearman* pada batas kemaknaan  $p < 0,05$ .

**Hasil:** Didapatkan 86 pasien kanker ovarium yang memenuhi kriteria inklusi dan eksklusi didapatkan perbedaan yang bermakna antara kelompok albumin  $\geq 3,5$  g/dL vs albumin  $< 3,5$  g/dL pada karakteristik usia dengan median  $p = 0,020$ , stadium FIGO  $p < 0,001$ , tahap progresivitas  $p = 0,001$ , dan tipe histopatologi  $p = 0,034$ . Didapatkan perbedaan yang bermakna berdasarkan kadar albumin dengan stadium FIGO dengan median (min-maks) 3,88(2,58-5,03)  $p < 0,001$  pada stadium I, 3,61(2,58-4,26)  $p = 0,003$  pada stadium II, 3,46(2,49-4,61)  $p < 0,001$  pada stadium III, 3,08(2,28-3,74)  $p < 0,001$  pada stadium IV, tahap progresivitas 3,83(2,58-5,02)  $p = 0,001$  pada stadium awal, 3,54(2,28-5,03) pada stadium lanjut, berdasarkan tipe histopatologis 3,47(2,28-5,03)  $p < 0,001$  pada tipe epitel, 3,84(3,46-4,01)  $p < 0,001$  pada *non-epithelial*. Didapatkan korelasi negatif antara stadium dengan kadar albumin  $\rho = -0,428$  ( $p < 0,001$ ).

**Simpulan:** Terdapat korelasi negatif sedang yang bermakna antara stadium dan kadar albumin pada kanker ovarium.

**Kata Kunci:** kanker ovarium, stadium, albumin, malnutrisi