

**HUBUNGAN EKSPRESI PROGRAMMED DEATH-LIGAND 1 (PD-L1)
TERHADAP GAMBARAN KLINIKOPATOLOGIK INVASIVE
UROTHELIAL CARCINOMA (IUC) VESIKA URINARIA**

Arwin Burangasi¹, Hermawan Istiadi², Ika Pawitra M.²

*Resident of Anatomical Pathology Department, Faculty of Medicine, Diponegoro University,
Dr.Kariadi General Hospital, Semarang, Indonesia*

*Lecturer of Anatomical Pathology Department, Faculty of Medicine, Diponegoro University,
Dr.Kariadi General Hospital, Semarang, Indonesia*

ABSTRAK

Latar Belakang : *Invasive Urothelial carcinoma (IUC)* merupakan karsinoma yang berasal dari sel urothelial traktus urinarius yang mencakup renal pelvis, ureter, vesika urinaria, dan urethra (predominan 90-95% melibatkan vesika urinaria). Karsinoma urothelial vesika urinaria menduduki peringkat ke-10 dari keseluruhan jenis kanker di seluruh dunia, dengan sekitar 573.000 kasus baru setiap tahunnya dan 213.000 kematian ditahun 2020. *American Cancer Society* memperkirakan sekitar 82.290 kasus baru pada tahun 2023 (62.420 laki-laki dan 19.870 wanita), dan sekitar 16.710 penderitanya meninggal dunia. Data Globocan Asia Tenggara mencatat 18.911 kasus baru tahun 2020 dengan angka kematian mencapai 10.327 jiwa, dan Indonesia menyumbang sekitar 7.828 kasus, dengan angka kematian mencapai 3.885 kasus, dan diperkirakan meningkat 5 tahun ke depan mencapai 20.053 kasus. Salah satu faktor penting yang berpengaruh terhadap kelangsungan hidup pasien, yaitu banyaknya varian histopatologi *Invasive UC* vesika urinaria, keterlambatan diagnosis, dan rendahnya pemeriksaan rutin *PD-L1* sebagai indikator prognostik dan evaluasi alternatif imunoterapi pengobatan *Invasive UC* vesika urinaria, khususnya kasus lokal invasif atau metastasis progresif yang telah mendapatkan kemoterapi adjuvan atau neoadjuvan berbasis platinum.

Metode : Penelitian ini merupakan studi analitik observasional dengan pendekatan potong lintang (*cross sectional*) yang bertujuan untuk menilai ekspresi imunohistokimia PDL1 terhadap tipe histopatologi, usia, jenis kelamin, *staging* dan *grading* tumor untuk prognosis pasien *IUC* vesika urinaria.

Hasil : Analisis statistik dengan menggunakan *Chi Square* pada 54 pasien menunjukkan ekspresi PD-L1 terhadap usia dengan nilai $p=1,000$, Prevalensi Ratio (PR) < 1 ; jenis kelamin dengan nilai $p=0,311$, PR >1 ; tipe histopatologi dengan nilai $p=0,516$, PR < 1 ; *staging* tumor dengan nilai $p=0,708$, PR >1 ; *grading* tumor dengan nilai $p=1,000$, PR=1 dan angka ketahanan hidup dengan nilai $p=0,633$, PR >1 .

Kesimpulan : Terdapat hubungan faktor resiko antara ekspresi PD-L1 dengan usia, jenis kelamin, tipe histopatologi, *staging* tumor, *grading* tumor dan angka ketahanan hidup, walaupun perbedaan yang dihasilkan tidak signifikan

Kata kunci : *Urothelial carcinoma (UC)* vesika urinaria, *PDL-1*

**PROGRAMMED DEATH-LIGAND 1 (PD-L1) EXPRESSION CORRELATED TO
THE CLINICOPATHOLOGICAL FEATURES OF PATIENT WITH URINARY
BLADDER INVASIVE UROTHELIAL CARCINOMA (UC)**

Arwin Burangasi¹, Hermawan Istiadi², Ika Pawitra M.²

*Resident of Anatomical Pathology Department, Faculty of Medicine, Diponegoro University, Dr.
Kariadi General Hospital, Semarang, Indonesia*

*Lecturer of Anatomical Pathology Department, Faculty of Medicine, Diponegoro University, Dr.
Kariadi General Hospital, Semarang, Indonesia*

ABSTRACT

Background: Invasive urothelial carcinoma (UC) is malignant epithelial neoplasm with invasion, arising from urothelial lining of the urinary tract includes the renal pelvis, ureters, urinary bladder (more than 90-95%) and urethra. Urinary bladder carcinoma is ranked 10th among all types of worldwide cancer, with approximately 573,000 new cases each year and 213,000 deaths in 2020. The American Cancer Society estimates in 2023 approximately 82,290 new cases of urinary bladder carcinoma will be diagnosed in the United States (62,420 in men and 19,870 in women), and in same year around 16,710 sufferers died. Globocan Southeast Asia data recorded 18,911 new cases in 2020 with average 10,327 people has died, and Indonesia itself contributed around 7,828 cases, with 3,885 cases died, and is estimated to increase over 20,053 cases in 5 years. One of the important factors that influence patient survival is the large number of histopathological variants of urinary bladder UC, delays in diagnosis, and infrequently PD-L1 examination as a prognostic indicator and evaluation of alternative immunotherapy for UC treatment, especially for patients with progressive locally invasive or metastatic UC who have received adjuvant chemotherapy or platinum-based neoadjuvants.

Method: This study is an observational analytical study with a cross-sectional approach which aims to assess the immunohistochemical expression of PDL1 on histopathological type, age, gender, tumor staging and grading for the prognosis of urinary bladder invasive UC patients.

Results: Statistical analysis using Chi Square in 54 patients showed PD-L1 expression in relation to age with p value = 1,000, Prevalence Ratio (PR) < 1; gender with p value = 0.311, PR > 1; histopathology type with p value = 0.516, PR < 1; tumor staging with p value = 0.708, PR > 1; tumor grading with p value = 1,000, PR = 1 and survival rate with p value = 0.633, PR > 1.

Conclusion: There is a risk factor relationship between PD-L1 expression with age, gender, histopathology type, tumor staging, tumor grading and survival rate, although there is no significant.

Keywords: Urinary bladder UC, PDL-1