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PD-L1 expression as predictor of immunotherapy eligibility in penile squamous cell carcinoma patients

Muhammad Haritsyah Warli[1], Fauriski Febrian Prapiska[2], Ginanda Putra Siregar[2], Bungaran Sihombing[2], Syah Mirsya Warli[2]

[1]Universitas Indonesia; [2]Universitas Sumatera Utara

Muhammad Haritsyah Warli: Department of Urology, Faculty of Medicine, Unviersitas Indonesia - Haj i Adam Malik General Hospital;

Fauriski Febrian Prapiska: Division of Urology, Department of Surgery, Faculty of Medicine, Universit as Sumatera Utara – Haji Adam Malik General Hospital

Ginanda Putra Siregar: Division of Urology, Department of Surgery, Faculty of Medicine, Universitas Sumatera Utara – Haji Adam Malik General Hospital

Bungaran Sihombing: Division of Urology, Department of Surgery, Faculty of Medicine, Universitas S umatera Utara – Haji Adam Malik General Hospital

Syah Mirsya Warli: Division of Urology, Department of Surgery, Faculty of Medicine, Universitas Sum atera Utara – Haji Adam Malik General Hospital and Department of Urology, Faculty of Medicine, Un iversitas Sumatera Utara Hospital – Universitas Sumatera Utara

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Muhammad Haritsyah Warli

ABSTRACT

We investigated the correlation between PD-L1 expression and poor prognosis. We examined the correlation between PD-L1 expression and survival of penile SqCC and analyzed the adjusted hazard ratios (HR) of the patients with PD-L1 expression compared to anatomical stage of the tumor.

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KEYWORDS

PD-L1, Squamous Cell Carcinoma

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MATERIALS TEXT

-MD21R clone (Medaysis CA)
-Rabbit PD-L1 antibody
-DAB mixture
-Hematoxylin

PD-L1 Antibody Preparation

1 Reagent used to stain PD-L1 in this IHC staining was MD21R clone (Medaysis CA), ready to use (rabbit PD-L1 antibody)

2 PD-L1 antibody is diluted with ratio 1 uL PD-L1: 100 uL IHC diluent and then mixed for 5 minutes. 5m

Pretreatment

3 Pretreatment was done with EDTA pH8.0, 15 minutes using a Pressure Cooker 1h 15m

00:15:00 Pressure cooker

OR

01:00:00 30 – 60 minutes using a water bath **95 °C** to **99 °C**

4 Deparaffination and rehydration were done by using Bond Dewax Solution for 3 times, alcohol for 3 times, and Bond Wash Solution for 3 times.

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5 We retrieved the antigen by using Bond Epitope Retrieval Solution I for 4 times

PD-L1 and Sample Mixing and Detection

6 We mixed the solution with PD-L1 (Medaysis) primary antibody for 1 hour. 1h

7 The detection was done by using post primary procedure for 8 minutes, Bond Wash Solution for two times, and polymer for eight minutes. We used DAB mixture for staining and hematoxylin for counterstaining. 16m

00:08:00 post primary procedure

Bond Wash Solution Two times

00:08:00 polymer

Analysis

8 PD-LI expression was assessed on cytoplasm and/or tumor cell membranes and TILs. The positive control used was the placenta.

9 PD-LI expression is considered positive if it has a score of +2 or +3 and is considered negative if it has a score of +1 and 0. Intensity measurement then given a score of 0-3 (0= none; 1= weak; 2= moderate; and 3= strong).

10 The percentage of stained cells was assessed on a scale of 0-100%.
Percentage of stained tumor cells A= percentage of tumor cells intensity in 3+ {3 x (%Cells 3+)}, B= percentage of tumor cells intensity in 2+ {2 x (%Cells 2+)}, C= percentage of tumor cells intensity in 1+ {1 x (%Cells 1+)}

11 Semi-quantitative assessment refers to research by Chovanec *et al.* who used histoscore (H-score)

H-Score = {1 x (%cells 1+) + 2x (%cells 2+) + 3x (%cells 3+)}

12 Total value obtained ranges from 0 to 300, thus PD-L1 expression is categorized into “1” for negative (0 – 99) and “2” for positive (100 – 300).

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