Nature Reviews Clinical Oncology | Published online 9 Aug 2016; doi:10.1038/nrclinonc.2016.129

IMMUNOTHERAPY

Here or there, PD-L1 can be anywhere

Effective therapies have not been identified for acute-type and lymphoma-type adult T-cell leukaemia/lymphoma (ATLL), the two most aggressive of the four variants of this malignancy. Programmed cell death 1 ligand 1 (PD-L1) expression is associated with a poor prognosis in several solid tumours and haematological malignancies; therefore, Hiroaki Miyoshi and co-workers investigated whether PD-L1 expression could have prognostic value in ATLL.

Miyoshi *et al.* retrospectively analysed 135 biopsy samples from patients with newly diagnosed ATLL and assigned the patients to two main groups according to immunohistochemically confirmed PD-L1 expression: neoplastic PD-L1 (nPD-L1)-positive (≥50% PD-L1-stained neoplastic cells; 7.4% of patients) or nPD-L1-negative; nPD-L1-negative patients were further stratified into microenvironmental PD-L1 (miPD-L1)-positive (≥10 stained stromal cells per power field; 58.5% of patients) and PD-L1-negative (no staining; 34.1% of patients).

After a median follow-up duration of 10.9 months, the overall survival of patients in the nPD-L1-positive group was inferior to that of the nPD-L1-negative group (7.5 months versus 14.5 months; $P = 0.0085$); among the latter group, superior overall survival was reported for miPD-L1-positive versus PD-L1-negative patients (18.6 months versus 10.2 months; $P = 0.0029$).

Thus, expression of PD-L1 on cancer cells is associated with poor outcomes in ATLL, probably owing to the immunosuppressive effect of PD-L1. Surprisingly, PD-L1 expression on stromal cells is associated with favourable outcomes through a mechanism that remains unclear. Future studies are needed to elucidate this mechanism, as well as to evaluate the therapeutic potential of anti-PD-1/PD-L1 agents for patients with ATLL.

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ORIGINAL ARTICLE Miyoshi, H. *et al.* PD-L1 expression on neoplastic or stromal cell is respectively poor or good prognostic factor for adult T-cell leukemia/lymphoma. *Blood* http://dx.doi.org/10.1182/blood-2016-02-698936 (2016)