Nature Reviews Urology | Published online 22 Mar 2016; doi:10.1038/nrurol.2016.60

BLADDER CANCER

Atezolizumab effective against advanced-stage disease

Patients with metastatic urothelial carcinoma have few established treatment options, and standard-of-care treatments typically prolong survival by only 9–15 months. Now, findings of a phase II clinical trial indicate that a subset of these patients respond to the anti-programmed cell-death ligand-1 (PD-L1) humanized monoclonal antibody atezolizumab.

In this single-arm trial, 315 patients with inoperable, advanced-stage or metastatic urothelial carcinoma, whose disease had progressed despite receiving previous platinum-based chemotherapy were enrolled. The extent of pretreatment PD-L1 expression upon enrolment was determined using immuno-histochemical analyses of tumour-infiltrating immune cells (TILs) in biopsy samples. Patients received 3-weekly doses of atezolizumab: 26% of patients with >5% PDL-1 positive TILs and 18% of those with >1% PDL-1 positive TILs had an objective response to treatment. Although no comparator arm was included, this value is substantially higher than the ~10% of patients who respond to frequently used cytotoxic agents, as demonstrated by previous research.

At the time of publication, patients had a median response duration of 11.7 months, and 84% of patients had an ongoing response. Grade 3 or 4 treatment-related adverserse events ocurred in 16% of patients, with grade 3 or 4 immune-related adverse events, including pneumonitis, rash and dyspnoea in 5%.

These findings indicate that atezolizumab provides a viable alternative to cytotoxic chemotherapies for patients with metastatic urothelial carcinoma, despite substantial pretreatment with other therapies, and is particularly effective in patients with elevated PD-L1 expression on TILs. Longer-term follow up data on the outcomes of patients who continue to respond to atezolizumab are eagerly awaited.

Peter Sidaway

ORIGINAL ARTICLE Rosenberg, J. E.*et al.* Atezolizumab in patients with locally advanced and metastatic urothelial carcinoma who have progressed following treatment with platinum-based chemotherapy: a single-arm, multicentre, phase 2 trial. *Lancet* http://dx.doi.org/10.1016/S0140-6736(16)00561-4 (2016)