Abstract

Purpose of review: If we may cure metastatic melanoma patients thanks to immune checkpoint inhibitors (ICI), it is fair to say that around 2/3 of the patients present primary or secondary resistance to ICI. Therefore, progresses are needed and numerous new treatments are tested either alone or in combination with cytolytic T-lymphocyte-associated protein 4 (CTLA-4) or (PD)-1 blockade to overcome this resistance. In this review, we focused on new immunotherapeutic approaches studied in advanced melanoma previously treated by anti-PD-1 (Programmed cell Death 1 receptor) or anti-CTLA-4 antibodies.

Recent findings: The different approaches have been classified based on 'the cancer immunity cycle'. These new strategies target either the T-cell priming and activation step, T-cell trafficking and tumor infiltration, or tumor antigen recognition by T-cell and tumor killing.

Summary: Most of these novel strategies are based on mAbs targeting T-cell inhibitory or stimulatory coreceptors. The second main focus is based on modifying the tumor micro-environment. Combination strategies seem promising in few patients and suggest that a deeper understanding of the resistance in individual patients is mandatory to go further.