ABSTRACT

The modified vaccinia Ankara (MVA) virus (Modified attenuated Vaccinia virus, strain Ankara) induces mainly cellular immunity.

The ability of MVA vectors to be easily combined with immune checkpoint inhibitors (ongoing).

A weekly schedule of administration for at least 6 weeks followed by injections every 3 weeks up to 6 cycles.

The biomarker program identified a low pre-treatment level of triple immunodominant antigens in a subset of patients, which was associated with a higher probability of complete response and longer progression-free survival.

Extensive history of safety and efficacy in humans, as well as animals.

In study TG4040.02 severe peripheral thrombocytopenia was reported in 3 patients. mild thrombocytopenia was reported in 2 patients, all of which were in the vector alone group. The lower doses they seemed more prevalent for vectors expressing xenooantigens (TG4001 99% pts, TG4040 79% pts, TG4010 8% pts).

The phase II studies with TG4010 met their primary endpoints based respectively on 6 month progression-free survival (PFS), overall survival (OS), and response rate (RR) in patients with treatment-naive advanced non-small cell lung cancer (NSCLC) versus chemotherapy alone (Cisplatin + Gemcitabine versus Carboplatin + Paclitaxel).

High-risk HPV based on Roche Linear Array® test for CIN2/3 and ribavirin versus the same placebo in a phase IIIb study.

The phase IIIb study of MVA vs. Placebo in a phase IIIb study (NV25025). Selective activation of B cells in the periphery and the mucosa.

Differentiation of B cells in the periphery and the mucosa.

ientification of B cells in the periphery and the mucosa.

CONCLUSION

MVA are attenuated though immunogenic vectors for therapeutic vaccination.

The usual dose per SC injection ranges from 10^5 to 10^7 plaque forming units (pfu).

At these doses minor to moderate injection site reactions are the most frequent side effects.

Three positive randomized clinical trials, two in non-small cell lung cancer and one in chronic hepatitis C had in common:

The administration of the therapeutic vaccine from the beginning of standard of care.

A weekly schedule of administration for at least 6 weeks followed by injections every 3 to 4 weeks.

The ability of MVA vectors to be easily combined with other therapies and the strong rationale to combine them with immune checkpoint inhibitors calls for clinical trials associating these two classes of drugs.