Phase I study of the oncolytic viral immunotherapy agent Canerputere (C-REV) with S-1 in patients with stage IV pancreatic cancer

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Background

Canerputere (C-REV), former HI301, is an oncolytic, spontaneous mutant Herpes Simplex Virus type 1, and one of immunotherapies that combine direct tumor cell killing with immune modulation. The purpose of this study is to evaluate the safety, tolerability and efficacy of C-REV with S-1 in patients with gemcitabine-refractory advanced pancreatic cancer as well as to assess whether the immune modulation can work in pancreatic cancer by direct tumor cell killing. Also, to compare the safety and efficacy of C-REV injected in liquid metastases or not.

Methods

Eligibility Criteria
- Written informed consent
- Stage IV JPS 7th edition
- Measurable or assessable pancreatic and/or liver lesion
- Prior treatment with gemcitabine-based chemotherapy
- No history of HSV-1 infection
- Life expectancy >12 weeks
- No bleeding diathesis or coagulopathy

Criteria for Safety
- Safety using CTCAE 4.0
- Progression-free survival (PFS)
- Shedding of ≥Grade 3 Treatment-related events
- Treatment-related toxicities (TRTs)

Criteria for Treatment Efficacy
- Best Overall Response Rate
- Local response rate
- Stable disease rate
- Progression-free survival (PFS)
- 1 year survival rate

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Summary of results
- Ten patients (pts) were enrolled and treated in each cohort. In cohort 2, one patient was excluded from the efficacy analyses.
- There was no difference in the incidence of ≥Gr3 AE between Cohorts, similar as the AEs previously reported in the JPS 1 study.
- Objective response rate was 10% (1 PR) in Cohort 1 and 0% in Cohort 2. Disease control rate was 50% (1 PR and 4 SDs) and 66.7% (6 SDs), respectively.
- Median PFS was 90 days in Cohort 1 and 118 days in Cohort 2. There was no difference in efficacy between cohorts.
- Median OS was 338 days in Cohort 1, and was not reached in Cohort 2.

Discussion

Intromolecular C-REV seral injections are safe and well-tolerated in combination with S-1. The majority of S-1-related ≥Gr3 AEs were similar as the AEs previously reported in S-1 therapy. Assessment of C-REV plus S-1 as a potential new second-line treatment for stage IV pancreatic cancer is ongoing in this study.

Conclusions

Patients, their families and caregivers
- Dr. Takuhiro Naitoh (Nagoya University), originally established HI301
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