Introduction:
Immunotherapy with bolus infusion of monoclonal anti-GD2 antibody (mAb) ch14.18 in combination with cytokines effectively prolonged survival in high risk neuroblastoma (NB). In a phase 0a pilot study, we compared a treatment using continuous infusion of ch14.18/CHO in combination with interleukin-2 (IL-2) and 13-cis-RA and report PK, immune activation, clinical response, and survival.

Methods and Patients:
- 53 high risk neuroblastoma patients
- 5-6 cycles
Clinical response assessments in pts with measurable disease by mBGF, MRI/CT, bone marrow- and catecholamine- analysis before, after 2/3 and after 5/6 cycles.

Patients with refractory Stage 4 neuroblastoma patients: a SIOPEN Phase 1 study.
Treatment and outcomes of patients with relapsed, high-risk neuroblastoma: results of German DNRG Neuroblastoma Group Phase 1/2 study.

Ladenstein 3.

Impact of the IL-2 ch14.18/CHO treatment could be discontinued during ch14.18/CHO. All patients could be transferred to outpatient care.

Morphine usage is reduced with LTI compared to 8hr infusion.

All Patients developed effective serum levels of > 1 μg/ml ch14.18 persisting throughout the entire treatment period of 6 months.

Summary:
- Application of ch14.18/CHO as long term infusion dramatically improved the pain toxicity profile of this anti-GD2 treatment.
- At the same time, effective Ab levels and anti-neuroblastoma activity (ADCC and CDC) were achieved for the entire treatment.
- Importantly, this translated into remarkable response rates and improved survival in high risk NB patients.

Contact Information: Holger N. Lode, M.D.: lode@uni-greifswald.de