AVXS-101 GENE-REPLACEMENT THERAPY (GRT) FOR SPINAL MUSCULAR ATROPHY TYPE 1 (SMA): PIVOTAL PHASE 3 STUDY (STRIVE) UPDATE


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Introduction SMA1 is a neurodegenerative disease caused by bi-allelic survival motor neuron 1 gene (SMN1) deletion/mutation. In the phase 1 study, SMN GRT onasemnogene abeparvovec (AVXS-101) improved outcomes of symptomatic SMA1 patients. We report preliminary data of STRIVE, a pivotal study (NCT01306277) evaluating efficacy and safety of a one-time intravenous AVXS-101 infusion.

Methods STRIVE is a phase 3, multicenter, open-label, single-arm study in SMA1 patients aged <6 months (bi-allelic SMN1 loss, 2xSMN2). Primary outcomes: independent sitting for ≥30 seconds (18 months) and survival (14 months). Secondary outcomes: ability to thrive and ventilatory support (18 months). Exploratory outcomes: Children’s Hospital of Philadelphia Infant Test of Neuromuscular Disorders (CHOP-INTEND) and Bayley Scales of Infant and Toddler Development scores.

Results Enrollment is complete with 22 patients dosed. Mean age at symptom onset, genetic diagnosis, and enrollment was 1.9 (0.4–4.0), 2.1 (0.5–4.0), and 3.7 (0.5–5.9) months. At baseline, no patient required ventilatory/nutritional support, and all exclusively fed by mouth. Mean baseline CHOP-INTEND score was 32.6 (17.0–52.0), which increased 6.9 (–4.0–16.0, n=20), 10.4 (2.0–18.0, n=12), and 11.6 (–3.0–23.0, n=9) points at 1, 2, and 3 months. Updates will be provided at the congress.

Conclusions Preliminary data from STRIVE show rapid motor function improvements in SMA1 patients, paralleling phase 1 findings.