INTRODUCTION

AMT-060:
- Adeno-associated virus serotype 9 (AAV9) vector
- Cotin-optimized wildtype human factor IX (hFIX) gene
- Liver-specific promoter (Figure 1)

RESULTS

Demographics
- Patient demographics are described in Table 2

Methods
- Multi-national, open-label, dose-escalating study in participants with FIX activity ≤2% of normal, receiving either prophylactic or on-demand FIX with ≤2% of normal, and a severe bleeding phenotype

Efficacy Outcomes
- Endogenous FIX activity
  - Mean annualized FIX activity was higher in Cohort 2 versus Cohort 1 and was stable in both cohorts (Figure 3A)
  - No significant decrease in time between FIX infusions
- Sustained and stable individual FIX activity (Figure 3B and 3C)
- Sustained elevation of endogenous FIX activity following AAV-FIX gene transfer
  - Mean annualized FIX activity based on partial follow-up available for Year 2
  - FIX replacement
  - Eight of the nine participants on FIX prophylaxis at study entry discontinued use after AMT-060
  - No new TRAE occurred during the follow-up period
  - Decreases in FIX activity were observed in the cohort during the follow-up period.

Safety
- As previously reported
  - One patient experienced two AE, reported as possibly related to FIX replacement.

Table 4. Baseline characteristics

CONCLUSION
- Correctly measured reductions in bleeds and exogenous FIX use were sustained in each subsequent year following the start of FIX gene therapy.
- Endogenous FIX activity remained stable over the duration of the study.
- The safety profile of AMT-060 remained positive over the longer follow-up.

REFERENCES

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Next steps
- Transient, self-limiting headache shortly after vector administration
- No exclusion based on neutralizing antibody (NAb) activity
- No new TRAE occurred
- No patients experienced a mild, asymptomatic and transient increase in liver enzymes
- Resolved quickly without additional treatment

Table 3. Previously-reported treatment-related adverse events

Table 4. Baseline characteristics

Figure 1. AMT-060-L apartments with wildtype FIX casette

Figure 2. Study objectives and trial design

Figure 3. Sustained elevation of endogenous FIX activity

Figure 4. Reduction relative to pre-treatment in mean annualized FIX use

Figure 5. Mean annualized total bleeds

Table 1. Key outcome measures

Table 2. Demographics and baseline characteristics

Table 3. Baseline characteristics

Table 4. Previously-reported treatment-related adverse events

Table 5. Baseline characteristics

Table 6. Key outcome measures