A Phase 1b/2 study of the anti-myostatin adnectin RG6206 (BMS-986089) in ambulatory boys with Duchenne muscular dystrophy: A 120-week treatment update

Roxana Dreghici[1], Kathryn R. Wagner[2], Brenda L. Wong[3,4]*, Barry J. Byrne[5], Cuixia Tian[4], Leslie K. Jacobsen[6]*, Giridhar S. Tirucherai[6], Michael Rabbia[7], Heidemarie Kletzl[1], Niculae Constantinovici[1], Karl Yen[1], Gautam Sajeev[8], James Signorovitch[8,9], Susan J. Ward for cTAP[9] and Clifford Bechtold[6]*

1. F. Hoffmann-La Roche, Basel, Switzerland
2. The Johns Hopkins School of Medicine, Baltimore, MD, USA
3. UMass Memorial Children's Medical Center, Worcester, MA, USA
4. Cincinnati Children's Hospital Medical Center, Cincinnati, OH, USA
5. University of Florida, Gainesville, FL, USA
6. Bristol-Myers Squibb, Princeton, NJ, USA
7. Genentech Inc., Little Falls, NJ, USA
8. Analysis Group, Inc., Boston, MA, USA
9. Collaborative Trajectory Analysis Project (cTAP), Cambridge, MA, USA

*Institution at the time of study initiation

Heading: 21/25 words

Word count: 244/250 words (sub-headings not included). Please note, the EAN congress guidelines state that all abstracts should be in UK English.

Background and aims

Pharmacologic inhibition of myostatin, a negative regulator of muscle growth, has been shown to increase skeletal muscle mass in several species, including humans.

The aim of this study was to assess the safety, tolerability, pharmacokinetics (PK) and pharmacodynamics of the anti-myostatin adnectin RG6206 (BMS-986089) in a Phase 1b/2 study (NCT02515669) in ambulatory boys with Duchenne muscular dystrophy (DMD).

Methods

During a 24-week double-blind phase, 43 boys with DMD, aged 5–10 years, were randomized to receive weekly subcutaneous injections of RG6206 (4–50 mg) or placebo (3:1). All participants then received RG6206 throughout a 48-week open-label phase.

The primary endpoint of this study was safety and tolerability over 24 weeks. Secondary endpoints included; PK of RG6206, anti-drug antibody levels and serum myostatin levels. Dual energy X-ray absorptiometry imaging measured lean body mass (LBM).

Results

At 24 weeks' treatment, the most common AEs were mild-to-moderate injection site reactions that resolved without change to treatment. No clinically significant changes in laboratory values or vital signs were observed. RG6206 treatment resulted in a dose-dependent reduction (77–97%) in free myostatin.

We will report on change in LBM in boys who received RG6206 for 120 weeks and in patients with DMD from the Cincinnati Children's Hospital (analyses conducted by the Collaborative Trajectory Analysis Project) who had not received treatment.

Conclusions

No drug-related safety findings leading to withdrawal from the study were identified. In total, 41 boys are enrolled in a 228-week open-label extension. A Phase 2/3 RG6206 study is recruiting (NCT03039686).

Disclosure statement (27/100 words)

Study sponsored by F. Hoffmann-La Roche AG, Basel, Switzerland. Writing and editorial assistance was provided by MediTech Media, UK, in accordance with Good Publication Practice (GPP3) guidelines.