Clinical Trial RESULTS

Ardea Biosciences
A member of the AstraZeneca Group

Research Sponsor: Ardea Biosciences, Inc.
Drug Studied: RDEA3170
Study Drug Indication: Gout
National Clinical Trial #: NCT02498652
Protocol #: RDEA3170-206
Study Date: July 2015 to November 2015
Short Study Title: A study in participants with gout to determine if RDEA3170, when taken with allopurinol daily, will further reduce uric acid in the blood.

Thank you!

As a clinical study participant, you belong to a large community of participants around the world. You help researchers answer important health questions and discover new medical treatments.

Thank you for taking part in the clinical study for the study drug RDEA3170.

RDEA3170 is a new drug being developed to treat gout, a type of arthritis.

You and all of the participants helped researchers learn if RDEA3170 together with another drug called allopurinol can treat gout.

Ardea Biosciences, Inc., the sponsor of this study, thanks you for your help and thinks it is important for you to know the results of your study. An independent non-profit organization called CISCRP prepared this summary of the study results for you with the help of a medical writing organization. We hope it helps you understand and feel proud of your important role in medical research. If you have questions about the results, please speak with the doctor or staff at your study site.

CISCRP
THE CENTER FOR INFORMATION & STUDY ON CLINICAL RESEARCH PARTICIPATION

What's happened since my study ended?

The study started in July 2015 and ended in November 2015. The entire study took almost 4 months to complete and included 41 participants at 4 sites in the United States. When the study ended, the sponsor reviewed the data and created a report of the results. This is a summary of that report.

Why was the research needed?

Gout is a type of arthritis, or inflammation of the joints, that can cause pain and stiffness. It is caused by too much uric acid in your blood. Uric acid is made when your body breaks down certain substances. It usually leaves your body through urine. Gout can happen when uric acid does not leave the body properly and instead builds up in the blood and joints. The study drug RDEA3170 may treat gout by helping the kidneys filter out uric acid.

Researchers wanted to compare the combination of RDEA3170 and allopurinol to allopurinol alone. Allopurinol is a drug that is already used to reduce uric acid in the blood and treat gout. Researchers also wanted to study oxypurinol, xanthine, and hypoxanthine in participants' blood and/or urine. Oxypurinol is created by the body as it breaks down allopurinol and helps reduce the amount of uric acid the body produces. Xanthine and hypoxanthine occur in the body naturally, but higher levels of them in the blood can increase the chance of developing gout. When the body breaks them down, they can form uric acid, too much of which can lead to gout.

Researchers wanted to know:

- How did RDEA3170 and allopurinol together affect people with gout compared to allopurinol alone?
- How did RDEA3170, allopurinol, and oxypurinol act in the body?
- Did participants have medical problems during the study?

What kind of study was this?

This was an "open-label" study. This means that the participants and the study staff knew what study drugs each participant took.

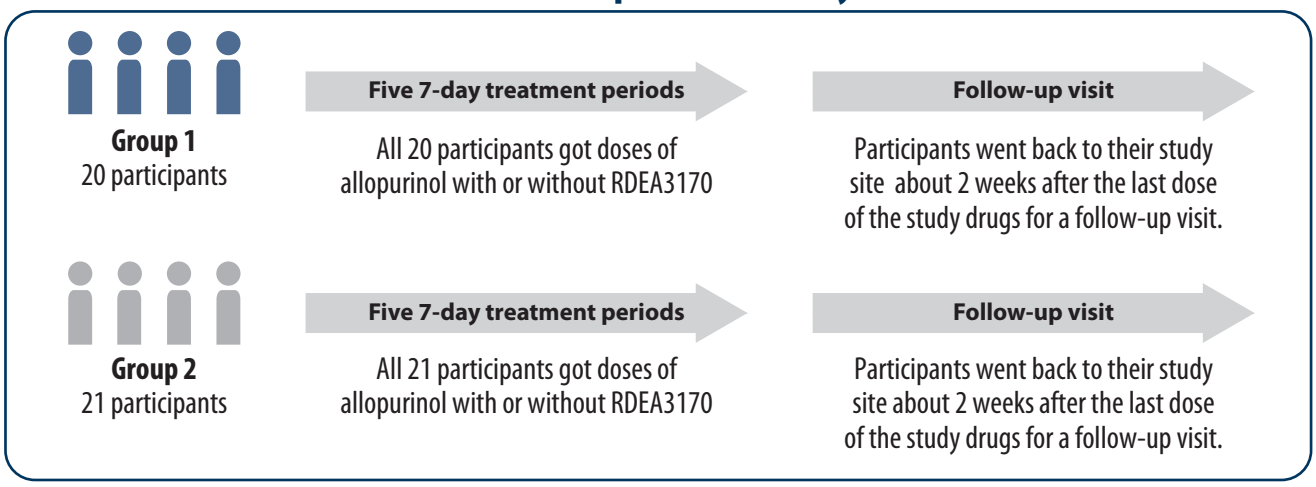
What happened during the study?

This study had 41 participants with gout between the ages of 28 and 74.

Participants had some visits to their study site during a period of 35 days. Before starting this study, study doctors did a physical exam, took blood and urine samples, and asked about each participant's medical history to make sure they could participate in the study. Study doctors also did an electrocardiogram, or ECG, to check the heart's rhythm. Both before and during the study, study doctors checked participants' blood pressure, heart rate, and body temperature. Study doctors also took blood and urine samples to measure the amounts of RDEA3170, allopurinol, oxypurinol, xanthine, hypoxanthine, and uric acid in participants' blood and/or urine. They asked participants how they were feeling, including whether they had any gout symptoms and what medications they had taken since their last visit.

There were 2 groups in this study:

Two Groups in This Study



Participants were assigned by chance, like flipping a coin, to each group.

Group 1 had 20 participants. Participants went back to their study site after about 4 to 5 days to receive a different treatment and have blood and/or urine samples taken. By the end of the study, each participant had been given 5 different treatments, the order of which varied from participant to participant:

- One 300-milligram (mg) dose of allopurinol every day
- One 300-mg dose of allopurinol and one 2.5-mg dose of RDEA3170 every day
- One 300-mg dose of allopurinol and one 7.5-mg dose of RDEA3170 every day
- One 300-mg dose of allopurinol and one 15-mg dose of RDEA3170 every day
- One 600-mg dose of allopurinol every day (either as a 600-mg tablet once a day or one 300-mg tablet taken twice a day)

Group 2 had 21 participants, including 1 participant who did not complete the study. Participants went back to their study site after about 4 to 5 days to receive a different treatment and have blood and/or urine samples taken. By the end of the study, each participant had been given 5 different treatment assignments, the order of which varied from participant to participant:

- One 300-mg dose of allopurinol every day
- One 300-mg dose of allopurinol and one 5-mg dose of RDEA3170 every day
- One 300-mg dose of allopurinol and one 10-mg dose of RDEA3170 every day
- One 300-mg dose of allopurinol and one 20-mg dose of RDEA3170 every day
- One 600-mg dose of allopurinol every day (either as a 600-mg tablet once a day or one 300-mg tablet taken twice a day)

All 41 participants went back to their study site about 2 weeks after their last dose of the study drugs for a follow-up visit. Study doctors did a physical exam and an ECG, took blood and urine samples, and answered questions about any medical problems and other drugs the participants were taking.

What were the study results?

Below is a summary of the results of some of the questions researchers asked during the study. It is important to know that researchers look at the results of many studies to decide which medicines work best and are safest for patients. Further clinical studies with RDEA3170 are not currently planned.

How did RDEA3170 and allopurinol together affect people with gout compared to allopurinol alone?

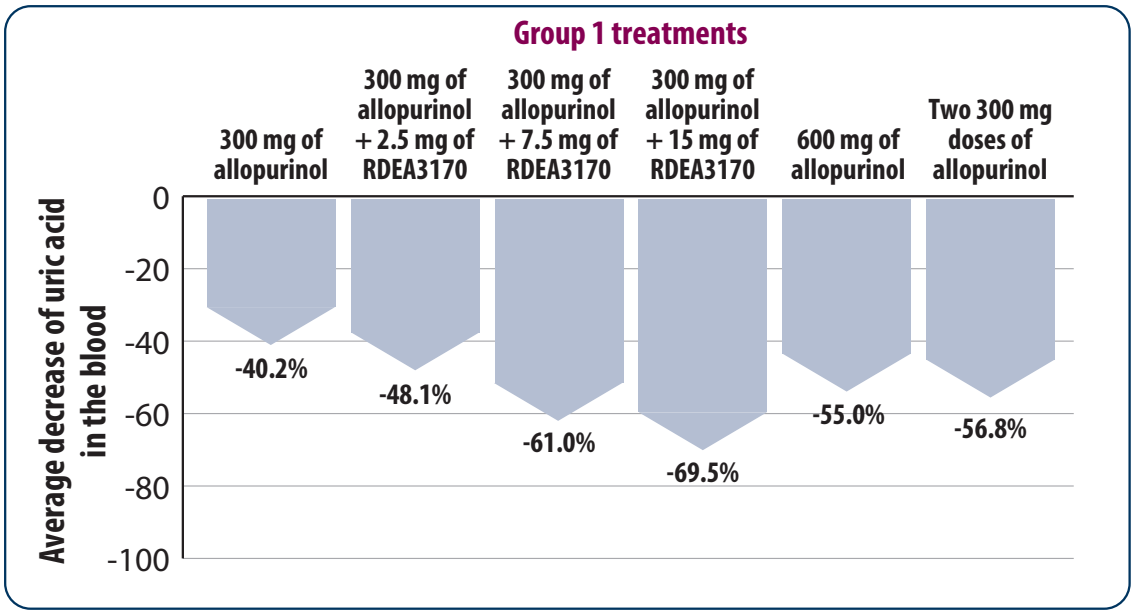
Researchers wanted to know if taking RDEA3170 and allopurinol together would lower uric acid in the blood more than taking allopurinol alone.

In Group 1, participants who took 7.5 and 15 mg of RDEA3170 with allopurinol had a greater average decrease of uric acid in their blood compared to allopurinol alone.

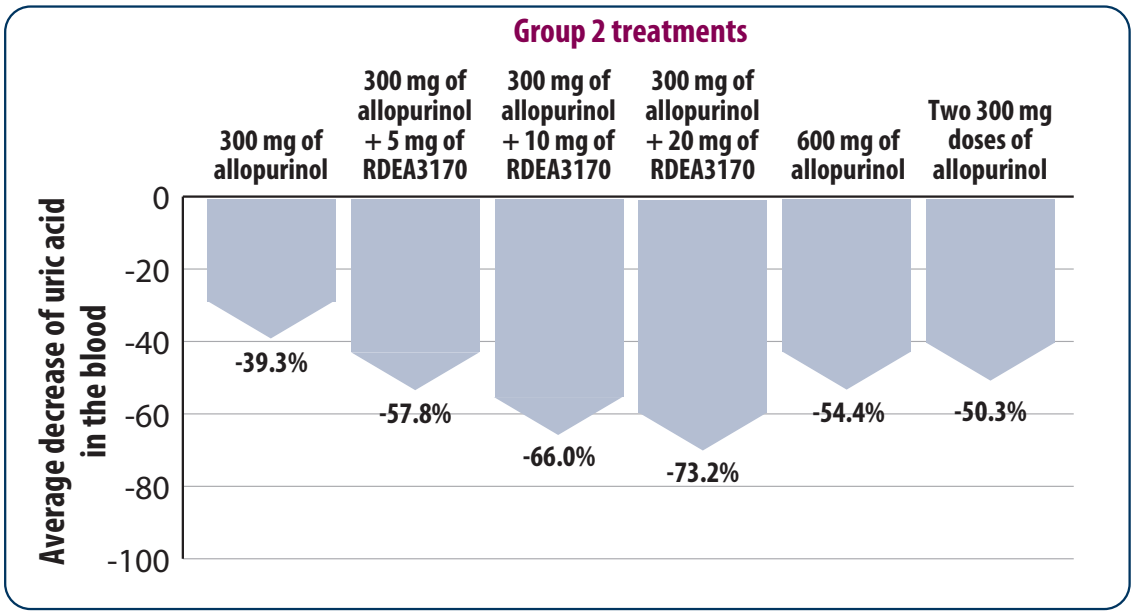
In Group 2, participants who took 5, 10, and 20 mg of RDEA3170 with allopurinol had a greater average decrease of uric acid in their blood compared to allopurinol alone.

The graphs below show these results.

Average decrease of uric acid in the blood for Group 1



Average decrease of uric acid in the blood for Group 2



Researchers also wanted to know how the study drugs affected the amounts of xanthine and hypoxanthine that left the body in participants' urine. Allopurinol works by keeping the body from breaking down xanthine and hypoxanthine, so the chemicals leave the body before they form uric acid. This keeps uric acid levels in the blood lower, which can reduce the risk of developing gout and help gout patients get better.

In both groups, researchers found that:

- The amount of hypoxanthine and xanthine that left the body in urine increased after participants took allopurinol alone. Researchers found increases of xanthine in the urine ranging from 360% to 2385%, and they found increases of hypoxanthine in the urine ranging from 108% to 754%.
- When participants took any amount of RDEA3170 with 300 mg of allopurinol, the increase in xanthine and hypoxanthine was similar to when participants took 300 mg of allopurinol alone.

How did RDEA3170, allopurinol, and oxypurinol act in the body?

Researchers took blood and urine samples throughout the study to measure the amount of RDEA3170, allopurinol, and oxypurinol in the body. They found that:

- Participants who took the highest doses of RDEA3170 had the highest measured amounts of RDEA3170 in their blood.
- When participants took RDEA3170 with 300 mg of allopurinol, less than 1% of RDEA3170 left the body through the urine without being broken down.
- The amount of allopurinol in the blood generally stayed the same no matter which dose of RDEA3170 participants took.
- The amount of oxypurinol in the blood decreased when participants took RDEA3170 with allopurinol. This amount decreased more as participants took higher doses of RDEA3170, up to 15 mg.
- The amount of oxypurinol that left the body in the urine increased by 5% to 29% when participants took RDEA3170 with allopurinol compared to allopurinol alone.
- The rate at which oxypurinol was filtered out of the body by the kidneys increased by 32% to 101% when participants also took RDEA3170 with allopurinol compared to allopurinol alone.

What medical problems did participants have during the study?

A lot of research is needed to know if a drug causes a medical problem. So when researchers study new drugs, they keep track of all the medical problems that participants have during the study. These problems are called "adverse events". They may or may not be caused by the study drug.

During this study, 12 participants (29.3%) had medical problems. No participants left the study because of medical problems. The table below shows how many participants in each group had medical problems in this study.

	Group 1 (out of 20 participants)	Group 2 (out of 21 participants)
How many participants had medical problems?	6 (30.0%)	6 (28.6%)
How many participants had serious medical problems?	1 (5.0%)	0 (0.0%)

What were the most common medical problems?

The table below shows the most common medical problems that happened to more than 1 participant during the study. All other medical problems happened to only 1 participant during the study.

Most common medical problems in the study	Group 1 (out of 20 participants)	Group 2 (out of 15 participants)
Infection of the nose, throat, and airways	2 (10.0%)	2 (13.3%)
Headache	0 (0.0%)	3 (20.0%)
Pain in the musculoskeletal system (bones, muscles, ligaments, tendons, and nerves)	0 (0.0%)	2 (13.3%)

What serious medical problems did participants have?

A medical problem is considered serious when it is life-threatening, causes lasting problems, or requires hospital treatment.

One participant from Group 1 developed aspiration pneumonia, an infection from breathing food, liquid, or vomit into the lungs. No participants from Group 2 had serious medical problems during the study. No participants in either group died during the study.

Where can I learn more about the study?

You can find more information about your study online at www.clinicaltrials.gov/show/results/NCT02498652.

These results are from a single study, and new information or different results may happen in other studies. Changes in your medical care should not be made based on the results of a single study without speaking with your doctor or another healthcare professional. If you have questions about the results, please speak with the doctor or staff at your study site.

Official study title: A Phase 2A, Randomized, Open-Label Study To Evaluate The Pharmacodynamic Effects And Safety Of RDEA3170 Administered In Combination With Allopurinol Compared With Allopurinol Administered Alone In Adult Subjects With Gout.

Ardea Biosciences, Inc., the sponsor of this study, is a member of the AstraZeneca Group and has its headquarters at 9390 Towne Centre Drive, San Diego, CA, 92121.

Thank you

It is said that the greatest gift is one that is given anonymously, giving when you do not know whether you will get direct personal benefit.

This is the gift that you have given by taking part in a clinical trial. It is a brave and selfless act, one that advances medical knowledge and benefits public health.

Thank you for the gift of your participation in clinical research.

CISCRP
THE CENTER FOR INFORMATION & STUDY ON CLINICAL RESEARCH PARTICIPATION

The Center for Information & Study on Clinical Research Participation (CISCRP) is a non-profit organization focused on educating and informing the public about clinical research participation. CISCRP is not involved in recruiting participants for clinical trials, nor is it involved in conducting clinical trials.

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