

Cystic Fibrosis Research News

Title:

CFTR ACTIVITY IS ENHANCED BY THE NOVEL CORRECTOR GLPG2222, GIVEN WITH AND WITHOUT IVACAFTOR IN TWO RANDOMIZED TRIALS

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What was your research question?

How safe is GLPG2222, a new medicine being developed for cystic fibrosis (CF), when taken alone or with another medicine called ivacaftor? Also, does GLPG2222 help correct the underlying problem in CF, help the lungs function (work) better, and reduce symptoms such as cough?

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Why is this important?

CF is caused by defects (faults) in a protein called the CF transmembrane conductance regulator (CFTR). Faulty CFTR protein causes an imbalance of salts and fluids inside and outside cells, which means that thick secretions form in the lungs and other organs. GLPG2222 works by partly fixing these protein defects. Current medicines that work like GLPG2222 have not greatly improved lung function in people with CF unless combined with other drugs. Also, some should not be taken with certain other medicines and can cause side effects that mean patients have to stop taking them. New, more effective medicines are needed.

What did you do?

In two small clinical trials, called FLAMINGO and ALBATROSS, adults with CF were given GLPG2222 or placebo (which looked like GLPG2222 but contained no medicine), once daily for 29 days. Participants in the ALBATROSS trial also continued to take the medicine ivacaftor. Side effects were monitored. Breathing tests were done to measure how well the lungs worked after taking GLPG2222. The amount of chloride (a component of salt) in patients' sweat was also measured, as a decrease could mean that GLPG2222 helped the faulty CFTR protein to work better (people with CF have higher chloride levels in their sweat).

What did you find?

GLPG2222 was well tolerated. Most side effects were infections or effects on the respiratory system or the gastrointestinal (the stomach or intestines) system. They included headache, cough, diarrhea and pulmonary exacerbations (symptoms worsening for a short time). No one stopped taking GLPG2222 during the study because of side effects.

GLPG2222 decreased the amount of chloride in sweat. This might mean that GLPG2222 can partially fix the faulty CFTR protein in patients with CF, but further trials are needed. GLPG2222 treatment did not improve lung function or improve symptoms like coughing, compared with placebo.

What does this mean and reasons for caution?

GLPG2222 is safe to be tested in more people with CF, including when given with other medicines that also work by affecting the faulty CFTR protein. Lung function did not significantly improve with GLPG2222, but these findings are based on a small number of people and the studies were designed to test safety rather than how well GLPG2222 works. Further studies of GLPG2222 are needed.



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What's next?

Results of the FLAMINGO and ALBATROSS studies support further testing of GLPG2222 as a potential medicine for people with CF and will help with the design of future clinical trials to carry out this testing. Trials could focus on how well GLPG2222 works at improving CF symptoms and lung function.

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