primary studies - published RCT

Effect of VX-770 in persons with cystic fibrosis and the G551D-CFTR mutation.

Code: PM21083385 **Year:** 2010 **Date:** 2010 **Author:** Accurso FJ

Study design (if review, criteria of inclusion for studies)

RCT

Participants

39 adults with cystic fibrosis and at least one G551D-CFTR allele

Interventions

oral VX-770 every 12 hours at a dose of 25, 75, or 150 mg or placebo for 14 days (in part 1 of the study) or VX-770 every 12 hours at a dose of 150 or 250 mg or placebo for 28 days (in part 2 of the study).

Outcome measures

change in the nasal potential difference, change in the level of sweat chloride, change from baseline in the percent of predicted FEV1, adverse events

Main results

At day 28, in the group of subjects who received 150 mg of VX-770, the median change in the nasal potential difference (in response to the administration of a chloride-free isoproterenol solution) from baseline was -3.5 mV (range, -8.3 to 0.5; P=0.02 for the within-subject comparison, P=0.13 vs. placebo), and the median change in the level of sweat chloride was -59.5 mmol per liter (range, -66.0 to -19.0; P=0.008 within-subject, P=0.02 vs. placebo). The median change from baseline in the percent of predicted forced expiratory volume in 1 second was 8.7% (range, 2.3 to 31.3; P=0.008 for the within-subject comparison, P=0.56 vs. placebo). None of the subjects withdrew from the study. Six severe adverse events occurred in two subjects (diffuse macular rash in one subject and five incidents of elevated blood and urine glucose levels in one subject with diabetes). All severe adverse events resolved without the discontinuation of VX-770.

Authors' conclusions

This study to evaluate the safety and adverse-event profile of VX-770 showed that VX-770 was associated with within-subject improvements in CFTR and lung function. These findings provide support for further studies of pharmacologic potentiation of CFTR as a means to treat cystic fibrosis.

http://dx.doi.org/10.1056/NEJMoa0909825

See also

N Engl J Med. 2010 Nov 18;363(21):1991-2003.

Keywords

Adult; Aminophenols; Anti-Bacterial Agents; CFTR Modulators; pharmacological_intervention; Quinolones; VX-770; ivacaftor; G551D-CFTR; Genetic Predisposition to Disease;