Dimebon fails in late-stage human HD clinical trial

Dimebon fails to improve symptoms in HD patients in the HORIZON trial

By Dr Jeff Carroll | April 11, 2011 | Edited by Professor Ed Wild

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Dimebon, an experimental drug marketed by Medivation, fails to improve the symptoms of Huntington's disease patients in the HORIZON trial. This is the end of the road for developing this drug for HD.

What is Dimebon?

Dimebon is an old drug, actually developed as an allergy medicine in Russia. Based on improvements in the mental or 'cognitive' symptoms in some Alzheimer's disease patients taking the drug, it was developed by Medivation and Pfizer as a potential treatment for both Alzheimer's and Huntington's disease.

What's been done before?

In the early phases of drug development, clinical trials are aimed at showing that the drug is not harmful, in small numbers of healthy volunteers or patients. The earlier DIMOND trial looked at the effect of Dimebon on 90 HD patients taking either Dimebon or a placebo. That trial showed that Dimebon was safe, and suggested there might be some benefit in the mental problems associated with HD.

A larger "phase III" trial was therefore conceived. Called HORIZON, this trial involved several hundred HD patients in Europe and the USA, with the goal of definitively proving that Dimebon helped with the cognitive symptoms of HD.

Phase III trials are the final stage before a drug company applies to the regulatory agencies for approval for a drug. Success or failure at the phase III level is what ultimately controls what drugs are available to patients.

Worryingly, in the meantime, Dimebon had failed to improve symptoms in a largephase III study of hundreds of Alzheimer's disease patients. The failure of that larger trial raised concerns about the drug. Nevertheless, because of the positive results from the DIMOND trial, the HORIZON trial in HD patients continued.

What are the results?

The HORIZON trial focused on two measures - a short mental quiz called the 'mini-mental state examination' and another score (called the 'CIBIC-plus'), which is based on a physician's impression of a patient's symptoms.

Both of these measures failed to improve in the patients taking Dimebon, compared to those taking placebo. The numbers were not close - it was a clear failure on both measures.

Now what?

According to a press release issued by Medivation, David Hung (president and CEO) has said "we will discontinue development of Dimebon in Huntington disease, including the ongoing open-label extension study" - the end of the road for Dimebon in Huntington's Disease.

Silver linings?

There's usually an up-side to bad news in science. One way to look at this disappointing announcement is that the results were very clearly negative, with no room for doubt. That means it's now clear that studying Dimebon further in Huntington's disease isn't worthwhile - so patients and researchers can spend precious time and resources developing other treatments - and, as our other HDBuzz articles will hopefully demonstrate, there are plenty of those in the pipeline.

The authors have no conflicts of interest to declare.For more information about our disclosure policy see our FAQ...

GLOSSARY

phase III The phase in the development of a new treatment where clinical trials are conducted using many patients, to determine whether the treatment is effective

placebo A placebo is a dummy medicine containing no active ingredients. The placebo effect is a psychological effect that causes people to feel better even if they're taking a pill that doesn't work.