



Plain Language Summary

Efficacy results from a 12-month double-blind randomized trial of arimoclomol NPC

Citation: Mengel E, Patterson MC, Vecchio D, et al. Efficacy results from a 12-month double-blind randomized trial of arimoclomol for treatment of Niemann-Pick disease type C (NPC): Presenting a rescored 4-domain NPC Clinical Severity Scale. *Mol Genet Metab*. 2024 Apr 25:106170. doi: 10.1016/j.ymgme.2024.106170. Epub ahead of print. PMID: 38670915.

<https://www.sciencedirect.com/science/article/pii/S2214426925000485>

Plain Language Summary: Results on the efficacy of a rescored 4-domain NPC Clinical Severity Scale from a 12-month double-blind randomized trial of arimoclomol for treatment of NPC.

What was this study about? This study was a new look at the results from an earlier trial of a medicine called arimoclomol for people with Niemann-Pick Disease Type C (NPC). NPC is a rare, serious genetic disease that causes problems with how the body handles fats, leading to damage in the brain, liver, and other organs. The original study didn't show a clear benefit for all patients. This new analysis aimed to see if using a different way to score patients' symptoms (a "rescored 4-domain NPC Clinical Severity Scale") would show clearer results for arimoclomol's effectiveness.

Who participated in the study? This analysis used data from the same 50 patients with NPC that were 2-19 years old who participated in the original trial. These patients were from different countries.

What was tested? The researchers re-examined the effects of arimoclomol. Patients in the original trial took arimoclomol or a placebo, and some were also taking another NPC medicine called miglustat.

How was the study done? This was a re-analysis of data from a "double-blind, randomized, placebo-controlled" trial. This means:

- **Randomized:** Patients were randomly put into one of two groups in the original study.
- **Double-blind:** Neither the patients nor their doctors knew if they were getting the actual medicine (arimoclomol) or a placebo (a dummy pill with no medicine) in the original study.
- **Placebo-controlled:** One group received arimoclomol, and the other received the placebo for 12 months in the original study. This new paper looked at the information collected from those patients, but scored their symptoms differently to see if new patterns emerged.

What were the main findings? When the researchers used the new way to score symptoms (the "rescored 4-domain NPC Clinical Severity Scale"), they found that:

- **Overall Symptoms:** Arimoclomol showed a significant benefit in slowing down the worsening of NPC symptoms over 12 months compared to the placebo. This was especially true for patients who were not taking another NPC medicine (miglustat) at the start of the study.
- **Specific Symptoms:** The improvements were seen across different areas of the disease, including neurological symptoms (like movement and speech problems).
- **Safety:** The safety profile of arimoclomol remained consistent with what was seen before; it was generally well-tolerated, with common side effects being stomach and gut problems.

What do these findings mean? This re-analysis suggests that arimoclomol can be an effective treatment for NPC, especially when using a more sensitive way to measure disease progression. The findings confirmed that arimoclomol can slow down the worsening of symptoms in NPC patients. This provides evidence for arimoclomol's potential as a treatment option for Niemann-Pick disease type C using a modified NPC Clinical Severity Scale (NPC-CSS).