One year results with maraviroc

In a study called Motivate 1, researchers enrolled participants who had experienced treatment failure with their previous regimens. The study team randomly assigned them to one of the following groups, or arms:

- placebo and an optimized background therapy (OBT) based on their treatment history and the results of resistance testing
- OBT and maraviroc 300 mg once daily
- OBT and maraviroc 300 mg twice daily

The dose of maraviroc was reduced to 150 mg (either once or twice daily) if participants also used protease inhibitors (except tipranavir [Aptivus]) or delavirdine (Rescriptor).

At the start of the study the average profile of participants was as follows:

- 10% female, 90% male
- age – 46 years old
- CD4+ count – 160 cells
- viral load – 71,000 copies

The protease inhibitor darunavir (Prezista) was not used in this study and only about 10% of participants in each arm had access to T-20 (enfuvirtide, Fuzeon).

Results—Changes in viral load

On average, the decrease in viral load in each arm was as follows:

- placebo and OBT - minus 0.8 logs
- maraviroc once daily and OBT – minus 1.66 logs
- maraviroc twice daily and OBT – minus 1.82 logs

These differences between maraviroc users and people who received placebo were statistically significant; that is, not likely due to chance alone.

Another way to assess the strength of maraviroc is to examine the proportion of volunteers in each arm whose viral load fell below the 50-copy mark. The results are as follows:

- placebo – 16%
- maraviroc once daily – 42%
- maraviroc twice daily – 47%

These differences between either maraviroc dose and the placebo group were statistically significant.

Here are the proportion of people who entered the study with a high viral load (more than 100,000 copies) and who later had this fall below the 50-copy mark:

- placebo – 7%
- maraviroc once daily – 31%
- maraviroc twice daily – 32%

And here are the proportion of people who entered the study with a viral load below 100,000 copies and who later had this fall below the 50-copy mark:
• placebo – 27%
• maraviroc once daily – 55%
• maraviroc twice daily – 60%

Dropouts and safety

When comparing the placebo arm of the study to the maraviroc arms, maraviroc appeared to be generally safe. Moreover, there were no significant differences between both arms of the study when it came to assessing serious or life-threatening effects. One way to infer the tolerability of a drug is to compare the number of participants in each arm who left the study, as follows:

• placebo – 6%
• maraviroc once daily – 6%
• maraviroc twice daily – 5%

AIDS and death

The proportion of volunteers who developed AIDS-related infection during the study was relatively small and similar in each group, as follows:

• placebo – 5%
• maraviroc once daily – 5%
• maraviroc twice daily – 5%

The proportion of deaths in each study arm was small and not significantly different:

• placebo – 1%
• maraviroc once daily – 1%
• maraviroc twice daily – 2%

No deaths were caused by maraviroc.

Focusing on infections and cancers

Between 10% and 15% of volunteers exposed to maraviroc were likely to develop the following symptoms:

• pneumonia
• cough
• fever
• dizziness

Fortunately, only one case of the AIDS-related pneumonia (PCP or *Pneumocystis jiroveci* pneumonia) occurred. The other causes of pneumonia were not disclosed. Researchers are not sure why lung infections were more common in some maraviroc users.

There were a few cases of oral/throat yeast infections in maraviroc users—seven in all vs. none in placebo recipients.

There were also seven cases of herpes that occurred in the maraviroc groups compared to two cases in the placebo group.

All of these differences in infections between groups were small and puzzling.

PHAs are at increased risk for cancer of the lymphatic system—lymphoma. In this study, there were two cases of lymphoma in the maraviroc arms and two cases in the placebo group.

Looking at the liver

Regular monitoring of liver enzymes and the waste product bilirubin in the blood is an important part of care, as
increased levels of these suggest the possibility of liver damage and related issues.

In the Motivate 1 study, researchers focused on finding cases of extremely high levels of liver enzymes (AST, ALT) and bilirubin in the blood. The reason for this is due to the reports of liver toxicity in studies of a now discontinued CCR5 inhibitor, aplaviroc. However, elevated liver enzymes were not common in the Motivate 1 study. For instance, the proportion of participants with extremely elevated levels of the liver enzyme AST (more than 10 times the upper limit of normal) was as follows:

- placebo – 1%
- maraviroc once daily – 1%
- maraviroc twice daily – 2%

Extremely elevated levels of bilirubin, another indicator of liver damage, were also uncommon.

Overall, these results suggest that maraviroc is a useful and generally safe part of combination therapy for treatment-experienced PHAs.

**REFERENCE:**

Disclaimer

Decisions about particular medical treatments should always be made in consultation with a qualified medical practitioner knowledgeable about HIV- and hepatitis C-related illness and the treatments in question.

CATIE provides information resources to help people living with HIV and/or hepatitis C who wish to manage their own health care in partnership with their care providers. Information accessed through or published or provided by CATIE, however, is not to be considered medical advice. We do not recommend or advocate particular treatments and we urge users to consult as broad a range of sources as possible. We strongly urge users to consult with a qualified medical practitioner prior to undertaking any decision, use or action of a medical nature.

CATIE endeavours to provide the most up-to-date and accurate information at the time of publication. However, information changes and users are encouraged to ensure they have the most current information. Users relying solely on this information do so entirely at their own risk. Neither CATIE nor any of its partners or funders, nor any of their employees, directors, officers or volunteers may be held liable for damages of any kind that may result from the use or misuse of any such information. Any opinions expressed herein or in any article or publication accessed or published or provided by CATIE may not reflect the policies or opinions of CATIE or any partners or funders.

Information on safer drug use is presented as a public health service to help people make healthier choices to reduce the spread of HIV, viral hepatitis and other infections. It is not intended to encourage or promote the use or possession of illegal drugs.

Permission to Reproduce

This document is copyrighted. It may be reprinted and distributed in its entirety for non-commercial purposes without prior permission, but permission must be obtained to edit its content. The following credit must appear on any reprint: This information was provided by CATIE (the Canadian AIDS Treatment Information Exchange). For more information, contact CATIE at 1.800.263.1638.

© CATIE

Production of this content has been made possible through a financial contribution from the Public Health Agency of Canada.

Available online at: