



March 26, 2020

Dear MO community,

We wanted to share an important update with you regarding the palovarotene clinical trial in MO. Since the U.S. Food and Drug Administration (FDA) placed the partial clinical hold on the MO-Ped trial last December, we have been working diligently to address the questions we received. Patient safety is our top priority and we take that responsibility very seriously.

We have made the difficult decision to close and unblind the MO-Ped trial. We chose this course of action for several reasons. First, the trial was not fully enrolled at the time the partial clinical hold was instituted in early December 2019 and very few patients had reached the trial midpoint. As such, if the trial were to continue, additional patients would need to be recruited, thus prolonging the overall trial duration, including for those patients receiving placebo. Given the ongoing partial clinical hold and the significant gap in dosing (minimum of five months), the integrity of the data may be compromised, including our ability to draw meaningful conclusions from the study.

Additionally, there is currently no unblinded efficacy data available in the MO population treated with palovarotene to further inform a benefit/risk assessment to support continued dosing in patients participating in the trial (children under the age of 14 years old).

This approach has been deemed to be the most prudent course of action to better inform the efficacy and safety of palovarotene in patients with MO in order to determine a potential path forward for the program.

This is difficult news and we share in your disappointment. We know every day poses challenges for those living with MO, and we understand the urgency in searching for a treatment.

Ipsen remains dedicated to the MO community and as part of this commitment, we will be analyzing the unblinded trial data to look for trends and/or endpoints that might meaningfully contribute to an improved trial design for palovarotene in the treatment of MO.

We would like to acknowledge and thank the study patients, families, caregivers and healthcare professionals who participated in the MO-Ped trial. While the outcome of this trial is not what we had hoped for, the role each of you have played is critical to our ability to discover and advance potential treatments for MO.

If you have further questions, please do not hesitate to consult your treating physician.

Sincerely,

Dr. Howard Mayer
Executive Vice President and Head of Research and Development

Dr. Jim Roach
Senior Vice President and Global Head, Rare Diseases Therapeutic Area



August 3, 2020

Dear MO Community,

We would like to inform you that we have made the very difficult decision to end the multiple osteochondromas (MO) clinical development program for palovarotene due to insufficient efficacy signals in the analysis of the Phase 2 MO-Ped (PVO-2A-201) trial. It was not an easy decision to make, and we realize that our MO Program provided hope for so many living with the condition.

We are grateful for the engagement of the community of patients, families, researchers and clinicians who supported the program through research, disease awareness and participating in the clinical trial. While this outcome was not what we had hoped for, we are optimistic that the knowledge gained from the trial will advance the collective understanding of the disease and potential future treatments. We are committed to sharing the data from the MO-Ped trial once it is complete with the broader community in a publication or at a scientific meeting.

In March 2020, we shared our decision to terminate the MO-Ped trial to analyze the accumulated data and evaluate the efficacy, safety and future of palovarotene in MO. Our hope was to establish a path forward for palovarotene in MO, including an assessment of its potential for submission to worldwide regulatory agencies. During this evaluation, we unfortunately did not observe a signal of efficacy that would warrant the initiation of a new MO trial and continuation of the program.

We are working with the clinical study investigators to continue post-treatment follow-up visits of clinical trial participants within the MO-Ped trial to complete the protocol-specified safety assessments and close out the study. If study participants have questions, they should contact their physician or clinical trial investigator.

It is our hope that the learnings from the MO-Ped trial will be used by researchers, the community and other companies to continue the journey toward a potential treatment.

Sincerely,

Jim Roach, MD

Senior Vice President and Global Head, Rare Diseases Therapeutic Area

Fei Shih, MD, PhD

Executive Medical Director, Rare Diseases Therapeutic Area