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TITLE: The Use of Novel Therapies to Reconstitute Blood Cell Production and Promote Organ Performance, using Bone Marrow Failure as a Model

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14. ABSTRACT

Diamond Blackfan anemia (DBA) is a rare inherited red cell aplasia. Mutations have been described in ribosomal protein genes. Currently standard therapy includes corticosteroids, red cell transfusions or stem cell transplantation; however all are fraught with many side effects. Leucine is one of the branched chain amino acids and has been shown to upregulate protein translation. This is a pilot study to test the feasibility of administering leucine to 50 patients with DBA, monitoring for clinical hematologic response and side effects. The study has not yet opened due to some delays. It has also required multiple revisions in the site-specific and master protocols. In addition the manufacturing company has a shortage of Leucine due to a factory issue since May 2011. At present we have procured adequate product and it is being set into capsular form. Since the protocol has not yet opened there is no scientific progress for this study at this time.

15. SUBJECT TERMS
None provided.

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INTRODUCTION:
Diamond Blackfan anemia (DBA) is a rare inherited red cell aplasia. Mutations have been described in ribosomal protein genes. Currently standard therapy includes corticosteroids, red cell transfusions or stem cell transplantation; however all are fraught with many side effects. Leucine is one of the branched chain amino acids and has been shown to upregulate protein translation. This is a pilot study to test the feasibility of administering leucine to 50 patients with DBA, monitoring for clinical hematologic response and side effects.

BODY:
The study has not yet opened for a variety of reasons. Initially the protocol was delayed due to the unanticipated need for an investigational new drug (IND) distinction from the Food and Drug Administration (FDA). The protocol also went through multiple revisions as site-specific and master protocols were required. The protocol was reviewed by our local institutional review board (IRB) for preliminary approval, pending the approval of the Department of Defense (DOD) and the FDA, but has required multiple modifications. In addition, the manufacturing company has a shortage of Leucine due to a factory issue since May 2011. The local IRB did not approve administration of the product in powder form due to inaccurate measurements with the initially proposed "scoop" method. We inquired as to the cost of packaging the product into capsular form. At present we have procured adequate product and it is being set into 250mg capsules. At this size capsule we can administer to small children (as the protocol starts at age 2 years) as well as adults. Our local Office of Research Compliance is requesting a Site Monitoring Plan to comply with the FDA IND requirements. We are awaiting a cost quote for this service and will need to procure funds for this, if this is mandated. Since the protocol has not yet opened there is no scientific progress for this study. The revisions will be sent to all three agencies (DOD, IRB and FDA). We have not had any charges to this grant as the protocol is not open.

KEY RESEARCH ACCOMPLISHMENTS:
- There are no key research accomplishments to date as the study is not opened yet.

REPORTABLE OUTCOMES:
- There are no key research accomplishments to date as the study is not opened yet.

CONCLUSION:
There are no results to report at this time as the study has not yet opened.

REFERENCES:
There are no references to report at this time as the study has not yet opened.

APPENDICES:
There are no appendices.

SUPPORTING DATA:
There are no supporting data.