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SP359

SANGUINATE™ as an Acute Therapy for Anemia and/or Ischemia: Report of 2 Patients

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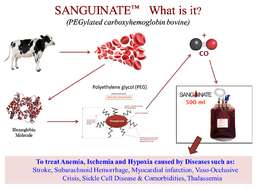
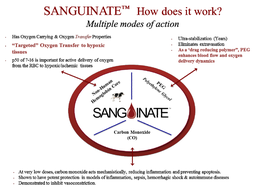
Introduction

Patients with Sickle Cell Disease undergo chronic blood transfusions and are therefore at increased risk for developing hemolytic reactions. These patients are often in an anemic state and the development of a hemolytic crisis can drop hemoglobin levels to dangerous levels such that the patient develops systemic hypoxia. In the case of allosensitization or certain religious beliefs, blood transfusion is contraindicated. SANGUINATE (PEGylated carboxyhemoglobin bovine) is a dual carbon monoxide and oxygen delivery agent that has the potential to treat conditions due to anemia and/or ischemia.





Study/Design Method

Both patients had a form of SCD and refused blood transfusions due to religious beliefs. They were treated under emergency IND. A 500 ml bag of SANGUINATE was infused within 2 hours at a concentration of 40 mg/mL: the first patient received 2 doses; the second patient received 4 doses.

eIND Patient #1

61 year old female with sickle cell/thalassemia trait with hypotension

- Admitted for Altered Mental Status/lethargy
- Refused blood transfusion (Jehovah's Witness)
- Prior to administration – Unresponsive to voice, and/or noxious stimuli.

eIND Patient #2

23 year old with sickle cell/thalassemia disease

- History of vaso-occlusive crises
- Refused blood transfusions due to religious beliefs
- Prior to administration – Acute SCD crisis with hemoglobin of 3.1; developed Acute Chest Syndrome and intubated in ICU.

Results

eIND Patient #1

- Twelve hours post-dose— More alert and responsive to questions.
- Cerebral Oximetry readings significantly increased from about 40% to 60%.
- Status deteriorated; Second dose administered but no response. Patient's family requested ventilation be discontinued.

eIND Patient #2

- Patient dosed Day 5& 6 (1X) and Day 13 (2X).
- TCD readings returned to normal levels and a decrease in C-reactive protein.
- Extubated on Day 14 and discharged from ICU.

Conclusion: Following administration of SANGUINATE

- Improvements in oxygenation (cerebral oximetry, extubation)
- Prior to administration, Patient 1 was unresponsive. Twelve hours post-dose, the patient was more alert and responsive to questions.
- In Patient 2, TCD readings returned to normal. Patient 2 was extubated and discharged from ICU.
- Improvements seen in both patients despite persistent low hemoglobin (<4 g/dL) levels.
- A 3rd eIND patient with hyperhemolys was also successfully treated with SANGUINATE.

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