PRIOR AUTHORIZATION POLICY

POLICY: Sickle Cell Disease – Endari Prior Authorization Policy
- Endari™ (L-glutamine oral powder – Emmaus Medical)

REVIEW DATE: 11/11/2020

OVERVIEW

Endari is indicated to **reduce the acute complications of sickle cell disease** in adults and pediatric patients ≥ 5 years of age.[1]

L-glutamine is an essential amino acid and serves as a precursor of nucleic acids and nucleotides including the pyridine nucleotides (nicotinamide adenine dinucleotide and reduced nicotinamide adenine dinucleotide).[1,2] These pyridine nucleotides play key roles in the regulation and prevention of oxidative damage in red blood cells and studies have shown that oxidative phenomena may play a significant role in the pathophysiology of sickle cell disease.

Disease Overview

Sickle cell disease, a multisystem disorder, is the most common condition caused by a single gene mutation.[3] In the US, population estimates suggest that a total of 100,000 persons have the disease. Approximately 300,000 babies are born with sickle cell anemia each year and it is estimated that the number could be as high as 400,000 by 2050.

Sickle cell disease is characterized by the presence of abnormal erythrocytes damaged by the sickle hemoglobin gene – this variant of the normal adult hemoglobin can be inherited from both parents or from one parent along with another variant, such as hemoglobin C or with β-thalassemia.[3] Complications of sickle cell disease include vaso-occlusion (which can result in pain and organ failure), hemolytic anemia, and large-vessel vasculopathy (cerebrovascular disease, pulmonary hypertension, ischemic organ damage, hyposplenism, renal failure, bone disease, liver failure).

Guidelines

The National Institutes of Health – National Heart, Lung, and Blood Institute issued the Evidence-Based Management of Sickle Cell Disease, Expert Panel Report in 2014.[4] The use of L-glutamine products in sickle cell disease is not mentioned (guidelines were published before the approval of Endari). Hydroxyurea has been shown to reduce the frequency of painful episodes and acute coronary syndrome events and reduce the need for transfusions and hospitalizations.

POLICY STATEMENT

Prior Authorization is recommended for prescription benefit coverage of Endari. All approvals are provided for the duration noted below. Because of the specialized skills required for evaluation and diagnosis of patients treated with Endari as well as the monitoring required for adverse events and long-term efficacy, approval requires Endari to be prescribed by or in consultation with a physician who specializes in the condition being treated.

Documentation: Documentation is required for use of Endari as noted in the criteria as **[documentation required]**. Documentation may include, but is not limited to, chart notes, prescription claims records, prescription receipts, and/or other information.

Automation: None.

RECOMMENDED AUTHORIZATION CRITERIA

Coverage of Endari is recommended in those who meet the following criteria:

FDA-Approved Indication

1. **Sickle Cell Disease [documentation required].** Approve for 1 year if the patient meets the following criteria (A and B):
   - **A)** Patient is ≥ 5 years of age; AND
   - **B)** The medication is prescribed by or in consultation with a physician who specializes in sickle cell disease (e.g., a hematologist).

CONDITIONS NOT RECOMMENDED FOR APPROVAL

Coverage of Endari is not recommended in the following situations:

1. Coverage is not recommended for circumstances not listed in the Recommended Authorization Criteria. Criteria will be updated as new published data are available.

REFERENCES

1. Endari™ oral powder [prescribing information]. Torrance CA: Emmaus Medical, Inc; November 2019.
2. FDA Briefing document, Oncologic Drugs Advisory Committee Meeting: L-glutamine. Available at: https://www.fda.gov/downloads/AdvisoryCommittees/CommitteesMeetingMaterials/Drugs/OncologicDrugsAdvisoryCommittee/UCM559734.pdf. Accessed on October 22, 2020.
3. Piel FB, Steinberg MH. Sickle cell disease. *N Engl J Med*. 2017;376:1561-1573.
4. The National Institutes of Health – National Heart, Lung, and Blood Institute Evidence-Based Management of Sickle Cell Disease, Expert Panel Report 2014. Available at: https://www.nhlbi.nih.gov/sites/default/files/media/docs/sickle-cell-disease-report%20020816_0.pdf. Accessed on October 22, 2020.