Soliris

**Description**

**Soliris (eculizumab)**

**Background**

Paroxysmal nocturnal hemoglobinuria (PNH) is a rare, acquired genetic blood disorder characterized by hemolytic anemia, thrombosis, impaired bone marrow function and a 3% to 5% risk of developing leukemia. PNH occurs when mutations of the PIG-A gene occur in a bone marrow stem cell resulting in the formation of cells deficient in a class of proteins called GPI-anchored proteins. This lack of protein renders these blood cells defenseless against intravascular hemolysis by the terminal complement mediated immune response (1).

PNH typically affects people in young adulthood with a median age of 30-40 years. Soliris is a monoclonal antibody that specifically binds to the complement protein, thereby inhibiting generation of the terminal complement complex C5b-9. This mechanism of action allows Soliris to inhibit terminal complement mediated intravascular hemolysis in PNH patients. Previous treatment for PNH was dependent on the severity of patient symptoms, and the only curative therapy is allogenic bone marrow transplantation (2,3).

Atypical hemolytic uremic syndrome (aHUS) is a rare and chronic blood disease that can lead to kidney failure and is associated with increased risk of death and stroke. Atypical HUS accounts for 5 to 10 percent of all cases of hemolytic uremic syndrome and disproportionately affects children. Safety and efficacy in pediatric patients was found to be similar to adult patients for the treatment of aHUS. Soliris is a targeted therapy that works by inhibiting proteins that play a role in aHUS (4,5).
Regulatory Status
FDA-approved indication: Soliris is a complement inhibitor indicated for the treatment of patients with paroxysmal nocturnal hemoglobinuria (PNH) to reduce hemolysis and for the treatment of patients age 18 and older with atypical hemolytic uremic syndrome (aHUS) to inhibit complement-mediated thrombotic microangiopathy.

Soliris includes a boxed warning of life-threatening and fatal meningococcal infections. Additionally, all patients must be vaccinated with a meningococcal vaccine at least 2 weeks prior to receiving their first dose.

Soliris is not indicated for the treatment of patients with Shiga toxin E. coli-related hemolytic uremic syndrome (STEC-HUS). Alexion Pharmaceutical has developed the Soliris OneSource program to assist patients and healthcare providers with education on PNH and aHUS, and to facilitate access to Soliris (5).

The safety and effectiveness of Soliris for the treatment of PNH in pediatric patients below the age of 18 years have not been established. Three clinical studies assessing the safety and effectiveness of Soliris for the treatment of aHUS included a total of 25 pediatric patients (ages 2 months to 17 years). The safety and effectiveness of Soliris for the treatment of aHUS appear similar in pediatric and adult patients (4).

Soliris is available only through a restricted program under a Risk Evaluation and Mitigation Strategy (REMS). Under the Soliris REMS prescribers must enroll in the Program.

Related policies

Policy

This policy statement applies to clinical review performed for pre-service (Prior Approval, Precertification, Advanced Benefit Determination, etc.) and/or post-service claims.

Soliris may be considered medically necessary in patients 18 years of age or older for the treatment of paroxysmal nocturnal hemoglobinuria (PNH) and in pediatric and adult patients for the treatment of atypical hemolytic uremic syndrome (aHUS). Vaccination against Neisseria
*meningitidis* at least 2 weeks prior to initiation of first dose is required for both diagnoses. Prescribers must be enrolled in the Soliris REMS program.

Soliris is considered *investigational* in patients under the age of 18 years for the treatment of PNH or for any other diagnosis.

**Prior-Approval Requirements**

**Diagnoses**

The patient must have **ONE** of the following:

1. Paroxysmal nocturnal hemoglobinuria (PHN)
   a. Age of 18 years of age or older

2. Atypical hemolytic uremic syndrome (aHUS)

**AND ALL** of the following:

- Vaccination against Neisseria meningitides at least 2 weeks prior to initiation
- Does NOT have Shiga toxin E. coli related hemolytic uremic syndrome (STEC-HUS)
- Prescribing physician is enrolled in Soliris REMS program

**Prior – Approval Renewal Requirements**

Same as above

**Policy Guidelines**

**Pre – PA Allowance**

None

**Prior - Approval Limits**

**Duration** 12 months
Prior – Approval Renewal Limits
Duration 12 months

Rationale

Summary

Soliris is a complement inhibitor indicated for the treatment of patients with paroxysmal nocturnal hemoglobinuria (PNH) to reduce hemolysis and for the treatment of patients age 18 and older with atypical hemolytic uremic syndrome (aHUS) to inhibit complement-mediated thrombotic microangiopathy. Soliris includes a boxed warning of life-threatening and fatal meningococcal infections. Soliris is not indicated for the treatment of patients with Shiga toxin E. coli-related hemolytic uremic syndrome (STEC-HUS). Soliris is available only through a restricted program under a Risk Evaluation and Mitigation Strategy (REMS).

Prior authorization is required to ensure the safe, clinically appropriate and cost effective use of Soliris while maintaining optimal therapeutic outcomes.

References

5. FDA news release: FDA approved Soliris for rare pediatric blood disorder; September 2011, www.fda.gov

Policy History

<table>
<thead>
<tr>
<th>Date</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>September 2011</td>
<td>New Policy</td>
</tr>
<tr>
<td>Date</td>
<td>Event</td>
</tr>
<tr>
<td>--------------------</td>
<td>-------------------------------------------------</td>
</tr>
<tr>
<td>January 13, 2012</td>
<td>New FDA-approved diagnosis of aHUS added to criteria.</td>
</tr>
<tr>
<td>September 2012</td>
<td>Annual editorial and reference update</td>
</tr>
<tr>
<td>March 2013</td>
<td>Annual editorial and reference update</td>
</tr>
<tr>
<td>March 2014</td>
<td>Annual review and reference update</td>
</tr>
</tbody>
</table>

**Keywords**

---

This policy was approved by the FEP® Pharmacy and Medical Policy Committee on March 13th, 2014 and effective April 1, 2014.

*Signature on File*

Deborah M. Smith, MD, MPH