Zorbtive

Description

Zorbtive (somatropin)

Background

Zorbtive [somatropin (rDNA origin) for injection] is a human growth hormone (hGH) produced by recombinant DNA technology. Zorbtive is approved for use in the treatment of short bowel syndrome (SBS) in patients who are on a specialized diet. SBS is a rare, serious and potentially life-threatening condition that follows extensive surgical removal of portions of the small intestine as a treatment for acute or chronic disorders of the intestine. Removal of a large portion of the bowel results in impaired absorption of nutrients. Currently the standard treatment for SBS involves careful management of dietary intake and hydration, or where appropriate, a process referred to as parenteral nutrition in which patients are fed through an intravenous tube. On rare occasions, surgical transplant of the intestine may also be performed for this condition (1).

Intestinal mucosa contains receptors for growth hormone and for insulin-like growth factor-1 (IGF-1), which is known to mediate many of the cellular actions of growth hormone. Thus, the actions of growth hormone on the gut may be direct or mediated via the local or systemic production of IGF-1. In human clinical studies, the administration of growth hormone has been shown to enhance the transmucosal transport of water, electrolytes, and nutrients (1).

The potential for misuse or abuse of Zorbtive is high since it is the same medication used for growth hormone deficiencies. Growth hormones misuse is prevalent with athletes and body builders and among those seeking its purported anti-aging and weight loss effects (2).
Regulatory Status
FDA-approved indication: Zorbtive [somatropin (rDNA origin)] for injection is indicated for the treatment of Short Bowel Syndrome in patients receiving specialized nutritional support (1).

Limitations of Use:
Do not use in the presence of: active neoplasia, catabolic illnesses, critically illness due to complications following open heart or abdominal surgery, accidental trauma or acute respiratory failure (1).

Specialized nutritional support may consist of a high carbohydrate, low-fat diet, adjusted for individual patient requirements and preferences. Nutritional supplements may be added according to the discretion of the treating physician. Zorbtive therapy should be used in conjunction with optimal management of Short Bowel Syndrome. Optimal management of Short Bowel Syndrome may include dietary adjustments, enteral feedings, parenteral nutrition, and fluid and micronutrient supplements, as needed (1).

Patients should be informed that allergic reactions are possible and that prompt medical attention should be sought if an allergic reaction occurs. Zorbtive is contraindicated in patients with active neoplasia (either newly diagnosed or recurrent) or an acute critical illness (1).

Recombinant human growth hormone (r-hGH) has been associated with acute pancreatitis. The use of somatropin has been associated with cases of new onset impaired glucose intolerance. New onset type 2 diabetes mellitus and exacerbation of preexisting diabetes mellitus have been reported in patients receiving somatropin. Some patients developed diabetic ketoacidosis and diabetic coma. In some patients, these conditions improved when somatropin was discontinued, while in others the glucose intolerance persisted. Some patients required initiation or adjustment of anti-diabetic treatment while on somatropin. Patients with other risk factors for glucose intolerance should be monitored closely during Zorbtive therapy (1).

Safety and efficacy in pediatric patients under the age of 18 years have not been established (1).

Related policies
Gattex, Human Growth Hormone Adult, Human Growth Hormone Child, Serostim

Policy
This policy statement applies to clinical review performed for pre-service (Prior Approval, Precertification, Advanced Benefit Determination, etc.) and/or post-service claims.
Zorbitive may be considered **medically necessary** in patients 18 years of age and older with short bowel syndrome and if the conditions indicated below are met.

Zorbitive is considered **investigational** in patients less than 18 years of age and for all other indications.

### Prior-Approval Requirements

**Age**  
18 years of age or older

**Diagnosis**

Patient must have the following:

- Short bowel syndrome (SBS)

**AND ALL** of the following:

1. Patient is currently receiving optimal management of short bowel syndrome including specialized nutritional support.
2. **NO** active neoplasia (either newly diagnosed or recurrent)
3. **NO** acute critical illness due to complications following open heart or abdominal surgery, accidental trauma or acute respiratory failure
4. **NOT** being used in combination with another somatropin agent

### Prior – Approval Renewal Requirements

Same as above

### Policy Guidelines

**Pre - PA Allowance**  
None

**Prior - Approval Limits**

**Duration**  
4 weeks per 365 days

**Prior – Approval Renewal Limits**  
Same as above
Rationale

Summary
Zorbtive (somatropin for injection) is a human growth hormone (hGH) produced by recombinant DNA technology. Intestinal mucosa contains receptors for growth hormone and for insulin-like growth factor-1 (IGF-1), which is known to mediate many of the cellular actions of growth hormone. Zorbtive [somatropin (rDNA origin) for injection] is FDA approved for the treatment of Short Bowel Syndrome in patients receiving specialized nutritional support (1). The potential for misuse or abuse of Zorbtive is high since it is the same medication used for growth hormone deficiencies. Growth hormones misuse is prevalent with athletes and body builders and among those seeking its purported anti-aging and weight loss effects (2). Safety and efficacy in pediatric patients under the age of 18 years have not been established (1).

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

References

Policy History

<table>
<thead>
<tr>
<th>Date</th>
<th>Action</th>
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</thead>
<tbody>
<tr>
<td>August 2009</td>
<td>New Policy</td>
</tr>
<tr>
<td>June 2010</td>
<td>Corrected the ICD coding</td>
</tr>
<tr>
<td>June 2012</td>
<td>Revision of the addition of indicators of effectiveness</td>
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<tr>
<td>December 2012</td>
<td>Annual editorial review and reference update</td>
</tr>
<tr>
<td>September 2013</td>
<td>Annual editorial review</td>
</tr>
</tbody>
</table>
| December 2014  | Annual editorial review and reference update
|                | Added to criteria: No concurrent use with another somatropin |
| September 2015 | Annual editorial review and reference update                 |
| September 2016 | Annual editorial review and reference update                 |
| December 2017  | Annual editorial review and reference update                 |
This policy was approved by the FEP® Pharmacy and Medical Policy Committee on December 6, 2019 and is effective on January 1, 2020.