RXADVANCE
2 Park Central Drive
Southborough, MA 01772

NEW DRUG APPROVAL

Brand Name	BYNFEZIA™
Generic Name	octreotide acetate
Drug Manufacturer	Sun Pharmaceutical Industries, Inc

New Drug Approval

BYNFEZIA™ Pen is a somatostatin analogue. It is indicated for:

- Reduction of growth hormone (GH) and insulin-like growth factor 1 (IGF-1) [somatomedin C] in adult patients with acromegaly who have had inadequate response to or cannot be treated with surgical resection, pituitary irradiation, and bromocriptine mesylate at maximally tolerated doses
- Treatment of severe diarrhea/flushing episodes associated with metastatic carcinoid tumors in adult patients
- Treatment of profuse watery diarrhea associated with vasoactive intestinal peptide tumors (Pomas) in adult patients

Limitations of Use:

- In patients with acromegaly, the effect of BYNFEZIA™ Pen on improvement in clinical signs and symptoms, reduction in tumor size and rate of growth, has not been determined.
- In patients with carcinoid syndrome and VIPomas, the effect of BYNFEZIA™ Pen on size, rate of growth and development of metastases, has not been determined.

FDA Approval Date: January 28, 2020

Place in Therapy

DISEASE DESCRIPTION & EPIDEMIOLOGY

Acromegaly is a hormonal disorder that develops when your pituitary gland produces too much growth hormone during adulthood. When this happens, your bones increase in size, including those of your hands, feet, and face. Acromegaly usually affects middle-aged adults, though it can develop at any age. In children who are still growing, too much growth hormone can cause a condition called gigantism. These children have exaggerated bone growth and an abnormal increase in height.

Acromegaly is a consequence of chronic growth hormone (GH) excess, due in the majority of cases to a GH-secreting pituitary adenoma and occurring with a population prevalence of 60 per million and an incidence of 3-4 per million per year. Males and females appear to be equally affected with an average age of presentation of 44 years. Younger patients may have more aggressive tumors and higher GH concentrations.

Efficacy

Efficacy data has not been mentioned in manufacturer's label.

Clinical trials are conducted under widely varying conditions, adverse reaction rates observed in the clinical trials of a drug cannot be directly compared to rates in the clinical trial of another drug and may not reflect the rates observed in practice. The safety of BYNFEZIA™ Pen has been established based on clinical studies of octreotide acetate injection.

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Safety

ADVERSE EVENTS

- Diarrhea, loose stools, nausea and abdominal discomfort in > 30% of patients with acromegaly and > 5% of patients with carcinoid tumors and VIPomas.
- Gallstones and sinus bradycardia in > 25% in patients with acromegaly.

WARNINGS & PRECAUTIONS

- Cholelithiasis and Complications of Cholelithiasis: Monitor periodically. Discontinue if complications of cholelithiasis are suspected.
- Hypoglycemia or Hyperglycemia: Monitor glucose and adjust antidiabetic treatment as needed.
- Thyroid Function Abnormalities: Hypothyroidism may occur. Assess baseline thyroid function before initiation and monitor periodically.
- Cardiac Function: Bradycardia, arrhythmia, or conduction abnormalities may occur. Drugs that have bradycardia effects may need dosage adjustments.
- Normalization of GH and IGF-1 may restore fertility in female patients unable to become pregnant; use of adequate contraception in female patients with childbearing potential is recommended during treatment.

CONTRAINDICATIONS

- Hypersensitivity to octreotide or any of the components of BYNFEZIA™ Pen.

Clinical Pharmacology

MECHANISMS OF ACTION

Octreotide acetate, a cyclic octapeptide agent, inhibits growth hormone, glucagon, and insulin more effectively than the natural hormone, somatostatin. Its suppression of luteinizing hormone's (LH) response to gonadotrophin releasing hormone (GnRH) and inhibition of the release of serotonin, gastrin, vasoactive intestinal peptide (VIP), secretin, motilin, and pancreatic polypeptide are similar to somatostatin's actions. The drug also reduces growth hormone and/or IGF-I (somatomedin C) in acromegaly, inhibits gallbladder contractions, reduces bile secretion, and suppresses the secretion of thyroid stimulating hormone (TSH).

By virtue of these pharmacological actions, octreotide has been used to treat the symptoms associated with metastatic carcinoid tumors (flushing and diarrhea), and VIP secreting adenomas (watery diarrhea).

Dose & Administration

ADULTS

- Acromegaly: Initiate dosage at 50 mcg three times daily. Typical dosage is 100 mcg three times a day
- Carcinoid Tumors: 100-600 mcg daily in 2-4 divided doses for first 2 weeks
- VIPomas: 200-300 mcg daily in 2-4 divided doses for first 2 weeks

PEDIATRICS

Safety and efficacy of BYNFEZIA™ Pen in pediatric patients have not been established.

GERIATRICS

Clinical studies of octreotide did not include sufficient numbers of subjects aged 65 and over to determine whether they respond differently from younger subjects.

RENAL IMPAIRMENT

In patients on dialysis, the half-life of octreotide may increase, necessitating adjustment of the maintenance dosage.

HEPATIC IMPAIRMENT

Patients with liver cirrhosis showed prolonged elimination of drug, with octreotide $t_{1/2}$ increasing to 3.7 hr and total body clearance decreasing to 5.9 L/hr, whereas patients with fatty liver disease showed $t_{1/2}$ increased to 3.4 hr and total body clearance of 8.2 L/hr.

Product Availability

DOSAGE FORM(S) & STRENGTH(S)

2,500 mcg/mL octreotide subcutaneous injection as a 2.8 mL single-patient-use pen