8026794-9093

For the use only of a Registered Medical Practitioner or a Hospital or a Laboratory

GEMITROL NS

Calcitonin (Salmon) Nasal Spray

Composition :

Each Actuation Delivers
Calcitonin (Salmon)I.P. 200 I.U.
(of synthetic origin) Each ml contains :
Calcitonin (Salmon) I.P. 2200 I.U.
(of synthetic origin)

Preservatives :
Benzalkonium Chloride I.P. 0.01 % w/v
Phenyl Ethyl Alcohol I.P. 0.2 % w/v
Aqueous Base q.s.

Description

Calcitonin is a polypeptide hormone secreted by the parafollicular cells of the thyroid gland in mammals and by the ultimobranchial gland of birds and fish.
GEMITROL (Calcitonin-salmon) Nasal Spray is a synthetic polypeptide of 32 amino acids in the same linear sequence that is found in calcitonin of salmon origin. The molecular weight is 3432. Its molecular formula is $C_{145}H_{240}N_{44}O_{48}S_2$ This is shown by the following graphic formula:

H-Cys-Ser-Asn-Leu-Ser-Thr-Cys-Val-Leu-
1 2 3 4 5 6 7 8 9
Gly-Lys-Leu-Ser-Gln-Glu-Leu-His-Lys-Leu-
10 11 12 13 14 15 16 17 18 19
Gln-Thr-Tyr-Pro-Arg-Thr-Asn-Thr-Gly-Ser-
20 21 22 23 24 25 26 27 28 29
Gly-Thr-Pro-NH_2
30 31 32

Indications

Gemitrol NS Nasal Spray is indicated for :
- Treatment of postmenopausal osteoporosis
- Bone pain associated with osteolysis and/or osteopenia.
- Paget's disease of bone (osteitisde formans).
- Neurodystrophic disorders (synonymous with algodystrophy or Sudeck's disease) due to various etiological and predisposing factors such as posttraumatic painful osteoporosis, reflex dystrophy, shoulder - arm syndrome, causalgia, drug-induced neurotrophic disorders.

Dosage and Administration

Gemitrol NS Nasal Spray is for intranasal use only. Gemitrol NS Nasal Spray delivers 200 IU calcitonin (salmon) per actuation.
Osteoporosis: The recommended dosage of Gemitrol NS Nasal Spray for the treatment of established post-menopausal osteoporosis is 200 IU once a day administered intranasally, alternating nostrils daily. Use of calcitonin (salmon) Nasal Spray is recommended in conjunction with an adequate calcium (at least 1000 mg elemental calcium) and vitamin D (400 IU per day) intake to prevent progressive loss of bone mass. Calcitonin (salmon) for the treatment of postmenopausal osteoporosis is to be administered on a long-term basis.
Bone pain associated with osteolysis and/or osteopenia: 200-400 IU daily. Up to 200 IU may be administered as a single dose; in cases where a higher dosage is required it should be given in divided doses. Dosage should be adjusted to the individual patient's needs. It may take several days of treatment until the analgesic effect is fully developed. For continuing therapy the initial daily dosage can usually be reduced and/or the interval between administration prolonged.
Paget's disease: 200 IU daily as a single dose. In some cases 400 IU in divided doses may be necessary at the beginning of therapy.
Treatment should be continued for at least 3 months, or longer if required. Dosage should be adjusted to the individual patient's needs.
Note
In Paget's disease, treatment with calcitonin (salmon) should be given for periods ranging from at least several months to a few years. Treatment markedly reduces serum alkaline phosphatase and urinary hydroxyproline excretion, often to normal levels. However, in rare cases, alkaline phosphatase and hydoxyproline excretion levels may rise after an initial fall; the physician must then judge from the clinical picture whether treatment should be discontinued and when it may be resumed.
Disorders of bone metabolism may reoccur one or several months after treatment has been discontinued, necessitating a new course of Gemitrol nasal spray therapy.
Neurodystrophic disorders: Early diagnosis is essential and treatment should start as soon as the diagnosis is confirmed. 200 IU daily in a single dose over a period of 2-4 weeks. An additional 200 IU may be further administered every second day for up to 6 weeks depending on clinical progress.
Pregnant women
There are no adequate and well controlled studies in pregnant women or nursing mothers with calcitonin (salmon). Animal studies have shown no embryotoxic and teratogenic potential. It appears that calcitonin (salmon) does not cross the placental barrier in animals. Calcitonin (salmon) nasal spray is not indicated for use in Pregnancy.
Lactating women
It is not known whether calcitonin (salmon) is excreted into human breast milk. In animals, calcitonin (salmon) has been shown to decrease lactation and to be excreted in milk. As a general rule, nursing should not be undertaken while a patient is on this drug since many drugs are excreted in human milk.
Pediatric use
As intranasal calcitonin is indicated for postmenopausal women, its use in children is not appropriate.
Use in elderly patients/Renal impairment/Hepatic impairment
Extensive experience with the use of calcitonin (salmon) nasal spray in the elderly has shown no evidence of reduced tolerability or altered dosage requirements. The same applies to patients with altered renal or hepatic function. Priming (activation) of pump: Before the first dose and administration, calcitonin (salmon) nasal spray should be at room temperature. To prime the pump, the bottle should be held upright and the two white side arms of the pump depressed toward the bottle until a full spray is produced. The pump is primed once the first full spray is emitted. To administer, the nozzle should be carefully placed into the nostril with the head in the upright position, and the pump firmly depressed toward the bottle. The pump should not be reprimed before each daily dose.
Contraindications
Hypersensitivity to synthetic calcitonin (salmon) or to any of the excipients of the formulation.
Calcitonin is also contraindicated in patients with hypercalcemia.
Warnings and Precautions
Periodical nasal examinations with visualization of the nasal mucosa, turbinates, septum and mucosal blood vessel status are recommended. Nasal examinations should be performed before treatment begins and in the case of nasal complaints, medication should not be started. If severe ulceration of the nasal mucosa occurs (e.g penetration below the mucosa or association with heavy bleeding), calcitonin (salmon) nasal spray should be discontinued. In case of mild ulceration, medication is to be interrupted temporarily until healing occurs.
Because calcitonin is a peptide, the possibility of systemic allergic reactions exists and allergic type reactions including isolated cases of anaphylactic shock have been reported in patients receiving calcitonin (salmon) nasal spray. In patients with suspected sensitivity to calcitonin, skin testing should be considered prior to treatment. Allergic reactions should be differentiated from generalized flushing and hypotension. The excipient benzalkonium chloride solution is an irritant and may cause irritation of the nasal mucosa.
Calcitonin (salmon) nasal spray may cause transient dizziness, which may impair the reaction of the patient. Patients must therefore be warned that transient dizziness may occur in which case they should not drive or use machines.
Drug interactions
No drug interactions with intranasal calcitonin (salmon) have been reported. Concomitant use of calcitonin and lithium may lead to a reduction in plasma lithium concentrations. The dose of lithium may need to be adjusted.
Adverse Effects
The most frequently observed undesirable effects are local reactions such as rhinitis and nasal discomfort. They are generally mild and rarely require discontinuation of the treatment.
Investigations: Development of neutralizing antibodies to calcitonin
Nervous system disorders: Dizziness, headache, dysgeusia.
Eye disorders: Visual disturbance.
Respiratory, thoracic and mediastinal disorders: Rhinitis (including nasal dryness, nasal oedema, nasal congestion, sneezing, allergic rhinitis), nasal discomfort (e.g. nasal irritation, nasal odour, rash papular, parosmia, nasal mucosal erythema, mucosal excoriation). Rhinitis ulcerative, sinusitis, epistaxis, pharyngitis, Cough.
Gastrointestinal disorders: Nausea, diarrhoea, abdominal pain, Vomiting.
Skin and subcutaneous tissue disorders: Pruritus, Rash generalized.
Musculoskeletal and connective tissue disorders: Musculoskeletal pain including arthralgia.
Vascular disorders: Flushing, Hypertension.
General disorders and administration site conditions: Fatigue, Influenza-like symptoms, oedema (facial, extremities and generalized).
Immune system disorders: Hypersensitivity reactions, Anaphylactic and anaphylactoid reactions such as tachycardia, hypotension, circulatory collapse and anaphylactic shock.
Overdose
No instances of overdose with calcitonin (salmon) nasal spray have been reported and no serious adverse reactions have been associated with high doses. There is no known potential for drug abuse for calcitonin (salmon). Nausea, vomiting, flushing and dizziness are known to be dose dependent when calcitonin is administered parenterally. Such events might therefore also be expected to occur in association with an overdose of calcitonin (salmon) nasal spray. However, calcitonin (salmon) nasal spray has been administered up to 1600 IU as a single dose and up to 800 IU per day for three days without causing any serious adverse event. If symptoms of overdose appear, treatment is to be symptomatic.
There have been no reports of hypocalcemic tetany. However, the pharmacologic actions of calcitonin (salmon) nasal spray suggest that this could occur in overdose. Therefore, provisions for parenteral administration of calcium should be available for the treatment of overdose.
Pharmacodynamic And Pharmacokinetic Properties
Calcitonin is a polypeptide hormone secreted by the parafollicular cells of the thyroid gland in the mammals and by the ultimobranchial gland of birds and fish.
Mechanism of Action
Calcitonin acts primarily on bone, but direct renal effects and actions on the gastrointestinal tract are recognized.
Calcitonin (salmon) appears to have actions essentially identical to calcitonins of mammalian origin, but its potency per mg is greater and it has a longer duration of action. The actions of calcitonin on bone and its role in normal human bone physiology are still not completely elucidated, although calcitonin receptors have been discovered in osteoclasts and osteoblasts. Calcitonin is a calciotropic hormone, which inhibits bone resorption by a direct action on osteoclasts. By inhibiting osteoclast activity via its specific receptors, calcitonin (salmon) decreases bone resorption. Calcitonin markedly reduces bone turnover in conditions with an increased rate of bone resorption such as osteoporosis.
The absence of mineralisation defect with calcitonin has been demonstrated by bone histomorphometric studies both in man and in animals.
In pharmacological studies calcium has been shown to have analgesic activity in animal models. Intranasal calcitonin produces a clinically relevant biological response in humans after only a single dose, as shown by an increase in the urinary excretion of calcium, phosphorus and sodium (by reducing their tubular re-uptake) and a decrease in the urinary excretion of hydroxyproline. Long term administration of intranasal calcitonin significantly suppresses biochemical markers of bone turnover such as serum C-telopeptides (sCTX) skeletal isoenzymes of alkaline phosphatase for up to 5 years of treatment.
Calcitonin (salmon) nasal spray results in a statistically significant 1-2% increase in lumbar spine Bone Mineral Density (BMD) which is evident from year 1 and is sustained for up to 5 years. Hip BMD is preserved.
Pharmacokinetics
Pharmacokinetic parameters of intranasally administered calcitonin (salmon) are difficult to quantitate due to the inadequate sensitivity and uncertain specificity of the available immunoassay methods used in the studies. The bioavailability of a 200 IU dose relative to parenteral administration is between 2 and 15%. Calcitonin (salmon) nasal spray is absorbed rapidly through the nasal mucosa and peak plasma concentrations are attained within the first hour of administration. The half life of elimination of calcitonin (salmon) has been calculated to be approximately 16 to 43 minutes. There is no evidence of accumulation of the drug observed on repeated nasal administration at 10 hour intervals for up to 15 days. Doses higher than the recommended dose result in higher blood levels (as shown by an increase in AUC) but relative bioavailability does not increase. As is the case with other polypeptide hormones, there is very little value in monitoring plasma levels of calcitonin (salmon) since these are not directly predictive of the therapeutic response. Hence, calcitonin parameters of efficacy. Plasma protein binding is 30 to 40%.
Expiry Date :
Do not use later than the date of expiry.
Storage and handling instructions:
Store unopened bottle in refrigerator at a temperature between 2°C to 8°C. Do not freeze. Once opened the bottle may be stored at room temperature below 25°C in an upright position for upto 4 weeks.
Keep out of the reach of children
Direction for Use :
See patient information leaflet.
Presentation :
Gemitrol NS Nasal Spray is available in bottle of 30 Metered Doses.

torrent

Marketed by :
TORRENT PHARMACEUTICALS LTD.
Indrad-382 721, Dist. Mehsana, INDIA.

Manufactured by :
Biodeal Laboratories Pvt. Ltd.
508, G.I.D.C. Estate, Wadhwan City - 363 035.
Dist. Surendranagar, Gujarat.

Patient Information Leaflet

30 Metered Doses

Calcitonin (Salmon) Nasal Spray

GEMITROL NS

FOR INTRANASAL USE ONLY

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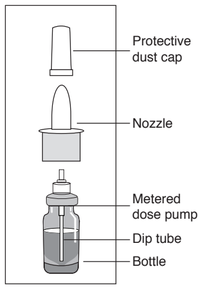
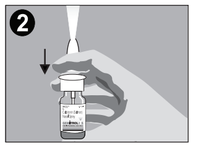
Parts of the Nasal Spray



Using your Nasal Spray correctly

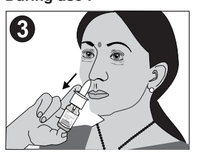
Before use

Hold the bottle as shown with your forefinger and middle finger on either side of nozzle and your thumb underneath the base of the bottle.



If using for the first time, test the spray; with the nozzle pointing away from you, press down several times as shown until a fine mist comes out of the nozzle.

During use :



Bend your head forward slightly and insert the nozzle into one of your nostrils. Try to hold the nasal spray upright. Press the pump firmly once only.

Remove the nasal spray from your nose and breath in deeply through your nostril to help keep the medicine in your nose.

Repeat steps 3 and 4 in alternate nostrils daily.

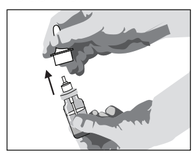
After use:

Wipe the nozzle with a clean handkerchief/ tissue and replace the protective dust cap.

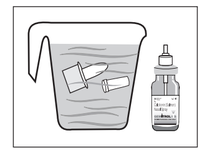
Cleaning your Nasal Spray

Your nasal spray should be cleaned at least once a week.

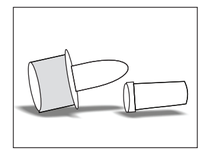
To do this:



Push the nozzle upwards to detach from the bottle.



Wash the nozzle and the dust cap in warm water.



Shake all excess water and allow nozzle and cap to dry at room temperature before refitting into the bottle.

Note:

If the nozzle becomes blocked, remove it as shown and soak in warm water.
Rinse the nozzle under running cold water from a tap.
Allow the nozzle to dry before refitting it to the bottle.

DO NOT USE PIN OR A SHARP OBJECT TO UNBLOCK THE NOZZLE AS THIS WILL DESTROY THE SPRAY MECHANISM.