

Package leaflet: Information for the user

Bendamustine hydrochloride 180 mg/4 ml Concentrate For Solution For Infusion Bendamustine hydrochloride

Read all of this leaflet carefully before you start using this medicine because it contains important information for you.

- Keep this leaflet. You may need to read it again.
- If you have any further questions, ask your doctor or pharmacist.
- This medicine has been prescribed for you only. Do not pass it on to others. It may harm them, even if their signs of illness are the same as yours.
- If you get any side effects, talk to your doctor or pharmacist. This includes any possible side effects not listed in this leaflet. See section 4.

What is in this leaflet:

- 1. What Bendamustine hydrochloride is and what it is used for**
- 2. What you need to know before you use Bendamustine hydrochloride**
- 3. How to use Bendamustine hydrochloride**
- 4. Possible side effects**
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1. What Bendamustine hydrochloride is and what it is used for

Bendamustine hydrochloride is a medicine which is used for the treatment of certain types of cancer (cytotoxic medicine).

Bendamustine hydrochloride is used alone (monotherapy) or in combination with other medicines for the treatment of the following forms of cancer:

- chronic lymphocytic leukaemia in cases where fludarabine combination chemotherapy is not appropriate for you
- non-Hodgkin's lymphomas, which had not, or only shortly, responded to prior rituximab treatment
- multiple myeloma in cases where high-dose chemotherapy with autologous stem cell transplantation, thalidomide or bortezomib-containing therapy is not appropriate for you.

2. What you need to know before you use Bendamustine hydrochloride

Do not take Bendamustine hydrochloride:

- if you are **allergic** to bendamustine hydrochloride or any of the other ingredients of this medicine (listed in section 6)
- while **breastfeeding**, if treatment with Bendamustine hydrochloride is necessary during lactation you must discontinue breastfeeding (see section warnings and precautions on breastfeeding)
- if you have **severe liver dysfunction** (damage to the functional cells of the liver)
- if you have **yellowing of the skin or whites of the eyes** caused by liver or blood problems (jaundice)
- if you have **severely disturbed bone marrow function** (bone marrow depression) and **serious changes** in your **number of white blood cells** and **platelets** in the blood
- if you have had **major surgical operations less than 30 days** before starting treatment
- if you have an **infection**, especially one accompanied by a reduction in white blood cells (**leucocytopenia**)
- in combination with **yellow fever vaccines**.

Warnings and precautions

Talk to your doctor, pharmacist or nurse before using Bendamustine hydrochloride:

- in case of **reduced capability of the bone marrow to replace blood cells**. You should have your number of white blood cells and platelets in the blood checked before starting treatment with Bendamustine hydrochloride, before each subsequent course of treatment and in the intervals between courses of treatment
- in case of **infections**. You should contact your doctor if you have signs of infection, including fever or lung symptoms
- at any time during or after your treatment, tell your doctor immediately if you notice or someone notices in you: memory loss, trouble thinking, difficulty walking or sight loss – these may be due to a very rare but serious brain infection which can be fatal (progressive multifocal leukoencephalopathy or PML).
- in case of **reactions on your skin** during treatment with Bendamustine hydrochloride. The reactions may increase in severity
- contact your doctor if you notice any suspicious skin changes because there may be an increased risk of certain types of skin cancer (non-melanoma skin cancer) with the use of this medicine.
- in case of **painful red or purplish rash** that spreads and blisters and/or other lesions begin to appear in the mucous membrane (e.g. mouth and lips), in particular if you had before light sensitivity, infections of the respiratory system (e.g. bronchitis) and/or fever
- in cases of existing **heart disease** (e.g. heart attack, chest pain, severely disturbed heart rhythms)
- in case you notice **any pain in your side, blood in your urine or reduced amount of urine**. When your disease is very severe, your body may not be able to clear all the waste products from the dying cancer cells. This is called tumour lysis syndrome and can cause kidney failure and heart problems within 48 hours of the first dose of Bendamustine hydrochloride. Your doctor may ensure you are adequately hydrated and give you other medicines to help prevent it
- in case of **severe allergic or hypersensitivity reactions**. You should pay attention to infusion reactions after your first cycle of therapy.

Other medicines and Bendamustine hydrochloride

Tell your doctor or pharmacist if you are taking or have recently taken or might take any other medicines.

If Bendamustine hydrochloride is used in combination with medicines which inhibit the formation of blood in the bone marrow, the effect on the bone marrow may be intensified.

If Bendamustine hydrochloride is used in combination with medicines which alter your immune response, this effect may be intensified.

Cytostatic medicines may diminish the effectiveness of live-virus vaccination. Additionally cytostatic medicines increase the risk of an infection after vaccination with live vaccines (e.g. viral vaccination).

Pregnancy, breastfeeding and fertility

If you are pregnant or breastfeeding, think you may be pregnant or are planning to have a baby, ask your doctor or pharmacist for advice before using this medicine.

Pregnancy

Bendamustine hydrochloride can cause genetic damage and has caused malformations in animal studies. You should not use Bendamustine hydrochloride during pregnancy unless clearly indicated by your doctor. In case of treatment you should have medical consultation about the risk of potential adverse effects of your therapy for the unborn child and genetic consultation is recommended.

If you are a woman of childbearing potential you must use an effective method of contraception both before and during treatment with Bendamustine hydrochloride. If pregnancy occurs during your treatment with Bendamustine hydrochloride you must immediately inform your doctor and should have genetic consultation.

Breastfeeding

Bendamustine hydrochloride must not be administered during breastfeeding. If treatment with Bendamustine hydrochloride is necessary during lactation you must discontinue breastfeeding. Ask your doctor or pharmacist for advice before taking any medicine.

Fertility

Men receiving treatment with Bendamustine hydrochloride are advised not to father a child during treatment and for up to 6 months afterwards. Before starting treatment, you should seek advice on storing sperm because of the possibility of permanent infertility.

If you are a man, you should avoid fathering a child during treatment with Bendamustine hydrochloride and for up to 6 months after treatment has stopped. There is a risk that treatment with Bendamustine hydrochloride will lead to infertility and you may wish to seek advice on storing of sperm before treatment starts.

Driving and using machines

Bendamustine hydrochloride has major influence on the ability to drive and to use machines have been performed. Do not drive or operate machines if you experience side effects, such as dizziness or lack of coordination.

3. How to use Bendamustine hydrochloride

Always use this medicine exactly as your doctor or pharmacist has told you. Check with your doctor or pharmacist if you are not sure.

Bendamustine hydrochloride is administered into a vein over 30-60 minutes in various dosages, either alone (monotherapy) or in combination with other medicines.

Treatment should not be started if your white blood cells (leukocytes) and/or your blood platelets have fallen to counts below determined levels.

Your doctor will determine these values at regular intervals.

Chronic lymphocytic leukaemia

Bendamustine hydrochloride 100 mg per square meter of your body surface area (based on your height and weight)	on Days 1+2
Repeat the cycle after 4 weeks up to 6 times	

Non-Hodgkin's lymphomas

Bendamustine hydrochloride 120 mg per square meter of your body surface area (based on your height and weight)	on Days 1+2
Repeat the cycle after 3 weeks at least 6 times	

Multiple myeloma

Bendamustine hydrochloride 120-150 mg per square meter of your body surface area (based on your height and weight)	on Days 1+2
Prednisone 60 mg per square meter of your body surface area (based on your height and weight) by injection or per orally.	on Days 1-4
Repeat the cycle after 4 weeks at least 3 times	

Treatment should be terminated if white blood cell (leukocyte) and/or platelet values drop to determined levels. Treatment can be continued after white blood cell and platelet values have increased.

Impaired liver or kidney function

Dependent on the degree of impairment of your liver function it may be necessary to adjust your dose (by 30% in case of moderate liver dysfunction). No dose adjustment is necessary in case of impairment of kidney function. Your attending doctor will decide whether a dosage adjustment is necessary.

How it is administered

Treatment with Bendamustine hydrochloride should be undertaken only by doctors experienced in tumour therapy. Your doctor will give you the exact dose of Bendamustine hydrochloride and use the necessary precautions.

Your attending doctor will administer the solution for infusion after preparation as prescribed. The solution is administered into a vein as a short-term infusion over 30-60 minutes.

Duration of use

There is no time limit laid down as a general rule for treatment with Bendamustine hydrochloride. Duration of treatment depends on disease and response to treatment.

If you are at all worried or have any questions regarding treatment with Bendamustine hydrochloride, please speak to your doctor or nurse.

If you forget to use Bendamustine hydrochloride

If a dose of Bendamustine hydrochloride has been forgotten, your doctor will usually retain the normal dosage schedule.

If you stop using Bendamustine hydrochloride

The doctor treating you will decide whether to interrupt the treatment or to change over to a different preparation.

If you have any further questions on the use of this medicine, ask your doctor or pharmacist.

4. Possible side effects

Like all medicines, this medicine can cause side effects, although not everybody gets them. Some of the findings listed below may be found after tests performed by your doctor.

The following definitions of frequency are used when assessing side-effects:

Very common	affects more than 1 user in 10
Common	affects 1 to 10 users in 100
Uncommon	affects 1 to 10 users in 1,000
Rare	affects 1 to 10 users in 10,000
Very rare	affects less than 1 user in 10,000
Not known	frequency cannot be estimated from the available data

Tissue decay (necrosis) has been observed very rarely following leakage of Bendamustine hydrochloride into the tissue outside the blood vessels (extravascular). A burning sensation where the infusion needle is inserted may be a sign of leakage outside the blood vessels. The consequence can be pain and poorly healing skin defects.

The dose-limiting side-effect of Bendamustine hydrochloride is impaired bone-marrow function, which usually returns to normal after treatment. Suppressed bone marrow function may lead to low counts of blood cells, which in turn may lead to an increased risk of infection, anemia or a heightened risk of bleeding.

Very common side effects

- low counts of white blood cells (disease-fighting cells in your blood)
- decrease in the red pigment of the blood (haemoglobin: a protein in red blood cells that carries oxygen throughout the body)
- low counts of platelets (colorless blood cells that help blood clot)
- infections
- feeling sick (nausea)
- vomiting
- mucosal inflammation
- headache
- increased blood level of creatinine (a chemical waste product that is produced by your muscle)
- increased blood level of urea (a chemical waste product)
- fever
- fatigue

Common side effects

- bleeding (haemorrhage)
- disturbed metabolism caused by dying cancer cells releasing their contents into the blood stream
- reduction in red blood cells which can make the skin pale and cause weakness or breathlessness (anemia)
- low counts of neutrophils (a common type of white blood cell important to fighting off infections)
- hypersensitivity reactions such as allergic inflammation of the skin (dermatitis), nettle rash (urticaria)
- a rise in liver enzymes AST/ALT (which may indicate inflammation or damage to cells in the liver)
- a rise in the enzyme alkaline phosphatase (an enzyme made mostly in the liver and bones)
- a rise in bile pigment (a substance made during the normal breakdown of red blood cells)
- low potassium blood levels (a nutrient that is necessary for the function of nerve and muscle cells, including those in your heart)
- disturbed function (dysfunction) of the heart
- disturbed heart rhythms (arrhythmia)
- low or high blood pressure (hypotension or hypertension)
- disturbed lung function
- diarrhoea
- constipation
- sore mouth (stomatitis)
- loss of appetite
- hair loss
- skin changes
- missed periods (amenorrhoea)
- pain
- insomnia
- chills
- dehydration
- dizziness
- itchy rash (urticaria)

Uncommon side effects

- accumulation of fluid in the heart sac (escape of fluid into the pericardial space)
- ineffective production of blood cells in the bone marrow (the spongy material inside your bones where blood cells are made)
- acute leukemia

- heart attack, chest pain (myocardial infarction)
- heart failure

Rare side effects

- infection of the blood (sepsis)
- severe allergic hypersensitivity reactions (anaphylactic reactions)
- reduction in your bone marrow function, which may make you feel unwell or show up in your blood tests
- signs similar to anaphylactic reactions (anaphylactoid reactions)
- drowsiness
- loss of voice (aphonia)
- acute circulatory collapse (failure of blood circulation mainly from a cardiac origin with failure to maintain the supply of oxygen and other nutrients to the tissues and removing toxins)
- reddening of the skin (erythema)
- inflammation of the skin (dermatitis)
- itching (pruritus)
- skin rash (macular exanthema)
- excessive sweating (hyperhidrosis)

Very rare side effects

- primary atypical inflammation of the lungs (pneumonia)
- break-down of red blood cells
- rapid decrease in blood pressure sometimes with skin reactions or rash (anaphylactic shock)
- disturbed sense of taste
- altered sensations (paraesthesia)
- malaise and pain in the limbs (peripheral neuropathy)
- serious condition resulting in the blockade of specific receptor in the nervous systems
- disorders of the nervous system
- lack of coordination (ataxia)
- inflammation of the brain (encephalitis)
- increased heart rate (tachycardia)
- inflammation of the veins (phlebitis)
- formation of tissue in the lungs (fibrosis of the lungs)
- bleeding inflammation of the gullet (haemorrhagic oesophagitis)
- bleeding of stomach or gut
- infertility
- multiple organ failure

Not known side effects

- liver failure
- renal failure
- irregular and often rapid heart rate (atrial fibrillation)
- painful red or purplish rash that spreads and blisters and/or other lesions begin to appear in the mucous membranes (e.g. mouth and lips), in particular if you had before light sensitivity, infections of the respiratory system (e.g. bronchitis) and/or fever
- drug rash in combination therapy with rituximab
- pneumonitis
- bleeding from the lungs
- Excessive urination, including at night, and excessive thirst even after drinking fluids (nephrogenic diabetes insipidus)

There have been reports of tumours (myelodysplastic syndrome, acute myeloid leukaemia (AML),

bronchial carcinoma) following treatment with Bendamustine hydrochloride. No clear relationship with Bendamustine hydrochloride could be determined.

Contact your doctor or seek medical attention immediately if you notice any of the following side effects (frequency not known):

- serious skin rashes including Stevens-Johnson syndrome and toxic epidermal necrolysis. These can appear as reddish target-like macules or circular patches often with central blisters on the trunk, skin peeling, ulcers of mouth, throat, nose, genitals and eyes and can be preceded by fever and flu-like symptoms
- widespread rash, high body temperature, enlarged lymph nodes and other body organs involvement (Drug Reaction with Eosinophilia and Systemic Symptoms which is also known as DRESS or drug hypersensitivity syndrome).

Reporting of side effects

If you get any side effects, talk to your doctor, pharmacist or nurse. This includes any possible side effects not listed in this leaflet. You can also report side effects directly via the Yellow Card Scheme website www.mhra.gov.uk/yellowcard or search for MHRA Yellow Card in the Google Play or Apple App Store. By reporting side effects, you can help provide more information on the safety of this medicine.

5. How to store Bendamustine hydrochloride

Keep this medicine out of the sight and reach of children.

Do not use this medicine after the expiry date which is stated on the label and the carton. The expiry date refers to the last day of that month.

Store and transport refrigerated (2-8°C). Do not freeze.

Keep the container in the outer carton to protect the content from light.

Note on shelf-life after opening or preparing the solution

Store and transport refrigerated (2-8°C). Do not freeze.

Keep the vial in the outer carton in order to protect from light.

Bendamustine hydrochloride 180 mg/4 ml vial is a multi-use vial. Use within 28 days.

From a microbiological point of view, the diluted solution should be used immediately after preparation. If not used immediately, in-use storage times and conditions prior to use are the responsibility of the user.

Solutions for infusions prepared according to the directions listed at the end of this leaflet are stable in polyethylene bags for 3.5 hours at 25°C/60% RH and 2 days at 2-8°C. Bendamustine hydrochloride contains no preservatives. The solutions should not therefore be used after these lengths of time. It is the responsibility of the user to maintain aseptic conditions.

Medicines should not be disposed of via wastewater or household waste. Ask your pharmacist how to dispose of medicines no longer required. These measures will help to protect the environment.

6. Contents of the pack and other information

What Bendamustine hydrochloride contains

The active substance is bendamustine hydrochloride.

1 vial contains 180 mg of bendamustine hydrochloride (as monohydrate)

1 ml of the concentrate contains 45 mg bendamustine hydrochloride (as monohydrate).

The other ingredients are butylhydroxytoluene and Macrogol 300.

What Bendamustine hydrochloride looks like and contents of the pack

5 ml amber glass vial with rubber stopper and flip-off seal.

The clear viscous solution appears pale yellow to yellow.

Bendamustine hydrochloride is available in pack sizes of 1 and 4 vials.

Not all pack sizes may be marketed.

Marketing Authorisation Holder and Manufacturer

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The following information is intended for medical or healthcare professionals only:

It should be noted that the concentration (45 mg/ml) of bendamustine in Bendamustine hydrochloride is higher than in other bendamustine products for intravenous infusion.

As with all similar cytotoxic substances, stricter safety precautions apply as far as nursing staff and doctors are concerned, due to the potentially genome-damaging and cancer-causing effect of the preparation. Avoid inhalation (breathing in), and contact with the skin and mucous membranes when handling Bendamustine hydrochloride (wear gloves and protective clothing, and possibly a face mask!). If any parts of the body become contaminated, clean them carefully with soap and water, flush the eyes with 0.9% (isotonic) saline solution. If possible, it is advisable to work on a special safety work bench (laminar flow) with a disposable absorbent sheet that is impermeable to liquids. Contaminated articles are cytostatic waste. Please comply with national guidelines on the disposal of cytostatic material! Pregnant staff must be excluded from working with cytostatics.

The concentrate for solution for infusion has to be diluted with sodium chloride 9 mg/ml (0.9%) solution for injection and then administered by intravenous infusion. Aseptic technique is to be used.

1. Dilution

Aseptically withdraw the volume needed for the required dose from the Bendamustine hydrochloride 180 mg/4 ml vial. Dilute the total recommended dose of Bendamustine hydrochloride 180 mg/4 ml with 0.9% sodium chloride solution to produce a final volume of about 500 ml.

While diluting the product it should be noted that the concentration (45 mg/ml) of bendamustine in Bendamustine hydrochloride is higher than in usual bendamustine concentrates resulting from reconstitution of bendamustine powder containing medicinal products.

Bendamustine hydrochloride 180 mg/4 ml must be diluted with 0.9% NaCl solution and not with any other injectable solutions.

2. Administration

The solution is administered by intravenous infusion over 30-60 min.

The vials are for multiple dose use.

Any unused product or waste material should be disposed of in accordance with local requirements.

Unintentional injection into the tissue outside blood vessels (extravasal injection) should be stopped immediately. The needle should be removed after a short aspiration. Thereafter the affected area of tissue should be cooled. The arm should be elevated. Additional treatments like the use of corticosteroids are not of clear benefit (see section 4).