Public Assessment Report

Scientific discussion

Bendamustin Actavis
(Bendamustine hydrochloride)

DK/H/2378/001/DC

Date: 22-05-2015

This module reflects the scientific discussion for the approval of Bendamustine Actavis. The procedure was finalised at February 18, 2015. For information on changes after this date please refer to the module 'Update'.

I. INTRODUCTION

Based on the review of the data on quality, safety and efficacy, the Member States have granted a marketing authorisation for Bendamustine Actavis 2.5 mg/ml powder for concentrate for solution for infusion from Actavis Group PTC ehf.

The product is indicated for*:*

- First-line treatment of chronic lymphocytic leukaemia (Binet stage B or C) in patients for whom fludarabine combination chemotherapy is not appropriate.
- Indolent non-Hodgkin's lymphomas as monotherapy in patients, who have progressed during or within 6 months following treatment with rituximab or a rituximab containing regimen.
- Front line treatment of multiple myeloma (Durie-Salmon stage II with progress or stage III) in combination with prednisone for patients older than 65 years who are not eligible for autologous stem cell transplantation and who have clinical neuropathy at time of diagnosis precluding the use of thalidomide or bortezomib containing treatment.

A comprehensive description of the indications and posology is given in the SmPC.

This decentralised procedure concerns a generic application claiming essential similarity with the reference product Levact 2.5 mg/ml powder for concentrate for solution for infusion, which has been registered in Europe by Astellas Pharma GmbH, since 15 July, 2010.

The marketing authorisation has been granted pursuant to Article 10.1 of Directive 2001/83/EC.

The reference product use to establishing the expiry of the data protection period is Ribomustin 25 mg/100 mg powder for solution for infusion from Astellas Pharma GmbH. Ribomustin was granted a marketing authorisation according to aquis 19 July 2005 in Germany.

II. QUALITY ASPECTS

II.1 Introduction

One vial contains 25 mg or 100 mg bendamustine hydrochloride, respectively.

The powder is a white to off-white lyophilisate.

The 25 mg strength is packed in Type I amber glass vials of 26 ml with bromobutyl rubber stopper and an aluminium cap with polypropylene disk and are supplied in packs of 1, 5, 10 and 20 vials.

The 100 mg strength is packed in Type I amber glass vials of 60 ml with bromobutyl rubber stopper and an aluminium cap with polypropylene disk and are supplied in packs of 1 and 5 vials.

Not all pack sizes may be marketed.

The excipients are: mannitol.

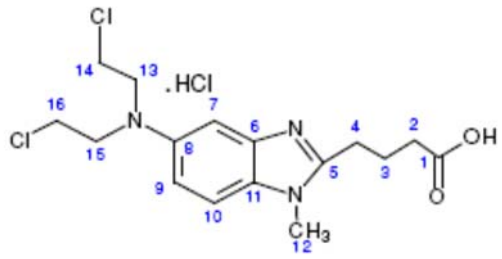
The powder for concentrate for solution for infusion has to be reconstituted with water for injection, diluted with sodium chloride 9 mg/ml (0.9%) solution for injection and then administered by intravenous infusion. Aseptic technique is to be used.

Compliance with Good Manufacturing Practice

The RMS has been assured that acceptable standards of GMP (see Directive 2003/94/EC) are in place for this product type at all sites responsible for the manufacturing of the active substance as well as for the manufacturing and assembly of this product prior to granting its national authorisation.

II.2 Drug Substance

International Non-proprietary Name (INN): Bendamustine hydrochloride
Chemical name(s): 4-[5-[bis(2-chloroethyl)amino]-1-methyl benzimidazol-2-yl]butanoic acid
Structure:



Molecular formula: $C_{16}H_{21}N_3O_2Cl_2$, HCl as base: $C_{16}H_{21}N_3O_2Cl_2$
Molecular mass: 394.72 as base: 358.26

There are no chiral centers and hence no chiral isomers.

Bendamustine hydrochloride is an off-white to cream coloured crystalline powder soluble in methanol and sparingly soluble in water.

Bendamustine HCl is not described in the European Pharmacopoeia.

The documentation on the active substance bendamustine HCl is presented as an Active Substance Master File (ASMF). Both Applicant's and Restricted Part have been presented together with a suitable Letter of Access.

Manufacture, characterisation and testing of the drug substance according to the specification is described.

II.3 Medicinal Product

The product is a lyophilised powder available in two proportionally formulated strengths containing 25 mg/vial and 100 mg/vial of the active substance. The powder is intended for first reconstitution with 10 ml or 40 ml WFI, respectively, reaching the concentration of 2.5 mg bendamustine HCl pr. ml, and secondly further dilution with 0.9% NaCl solution into the final solution for infusion.

The pharmaceutical development work is described in detail. The formulation is chosen in order to resemble the reference product.

The manufacturing process has been described and justified by validation.

The product specification covers appropriate parameters for this dosage form.

Validations of the analytical methods have been presented. Batch analysis has been performed on 2 + 3 batches 25 mg + 100 mg. The batch analysis results show that the finished products meet the specifications proposed.

Shelf-life/storage conditions of the unopened product: 2 years with no special storage conditions.

The product is very sensitive to moisture. Precautions are taken throughout the manufacturing process. Major degradation products have been identified and qualified. Degradation is seen during manufacture, storage of the drug product (dimer impurity), and especially after reconstitution and dilution into the final solution for infusion, where significant degradation takes place (monohydroxy impurity and dihydroxy impurity). The impurities/degradation products are all qualified, and the following shelf-life/storage conditions after reconstitution/dilution can be accepted: max. 3.5h at

25°C/60% RH in normal light conditions and 2 days at 2 ºC to 8 ºC, protected from light, in polyethylene bags.

III. NON-CLINICAL ASPECTS

III.1 Introduction

This product is a generic formulation of Levact, powder for concentrate for solution for infusion, which is available on the European market.
Since pharmacodynamic, pharmacokinetic and toxicological properties of bendamustine hydrochloride are well-known the applicant has not provided additional studies and further studies are not required.
Overview based on literature review is, thus, appropriate.

III.2 Ecotoxicity/environmental risk assessment (ERA)

According to "Guideline on the Enviromental Risk Assessment of Medicinal Products for Human Use" (EMEA/CHMP/SWP/4447/00, 01 June 2006), an ERA dossier for a generic product may not contain specific data, provided the ERA report includes an appropriate and sound justification for the absence, taking into consideration a possible significant increase of enviromental exposure to the drug substance. Since Bendamustine Actavis is intended for generic substitution, this will not lead to an increased exposure to the environment. An environmental risk assessment is therefore not deemed necessary.

IV. CLINICAL ASPECTS

IV.1 Introduction

Bendamustine hydrochloride is a well-known active substance with established efficacy and tolerability. This generic application does not contain new clinical data. This is acceptable for those generic applications for which bioequivalence studies are not required, and because the clinical properties for bendamustine hydrochloride are well-known.
Overview based on literature review is, thus, appropriate.

IV.2 Risk Management Plan & pharmacovigilance sytem

RMP
The MAH has submitted a risk management plan, in accordance with the requirements of Directive 2001/83/EC as amended, describing the pharmacovigilance activities and interventions designed to identify, characterise, prevent or minimise risks relating to Bendamustine Actavis.

Summary table of safety concerns:

Important identified risks	• Myelosuppression • Infections • Tumour lysis syndrome • Severe hypersensitivity reactions • Severe skin reactions • Cardiac disorders
Important potential risks	• Secondary malignancies • Renal toxicity • Hepatotoxicity • Embryotoxicity, teratogenicity and genotoxicity
Missing information	• Use in severe hepatic impairment • Use in patients below 18 years of age • Exposure during pregnancy and lactation • Effect in different races

No additional risk minimisation measures are proposed.

Summary of Pharmacovigilance System Master File (PSMF)
The applicant has provided a summary of PSMF in which proof is provided that the applicant has at his disposal a qualified person responsible for pharmacovigilance.
Information about the Member States in which the qualified person resides and carries out his/her tasks and the contact details of the qualified person is also included.
A statement signed by the applicant to the effect that the applicant has the necessary means to fulfill the tasks and responsibilities listed in Title IX of Directive 2001/83/EC as amended has been provided together with a reference to the location where the pharmacovigilance system master file for the medicinal product is kept.

V. PRODUCT INFORMATION

SmPC and Package leaflet
The content of the SmPC and package leaflet approved during the decentralised procedure is in accordance with that accepted for the reference product.

User consultation
A user consultation with target patient groups on the package information leaflet (PIL) has been performed on the basis of a bridging report making reference to Levact, DE/H/1250/001/DC. The bridging report submitted by the applicant has been found acceptable.

VI. OVERALL CONCLUSION, BENEFIT/RISK ASSESSMENT AND RECOMMENDATION

Bendamustine Actavis 2.5 mg/ml powder for concentrate for solution for infusion have a proven chemical-pharmaceutical quality and is a generic form of Levact.
Levact is a well-known medicinal product with an established favourable efficacy and safety profile.

The SmPC, package leaflet and labelling are in the agreed templates and are in agreement with the texts for Levact.

Agreement between Member States was reached during a written procedure. There was no discussion in the CMD(h). The Concerned Member States, on the basis of the data submitted, considered that essential similarity has been demonstrated for Bendamustine Actavis with the reference product, and have therefore granted a marketing authorisation.
The decentralised procedure was finished on February 18, 2015.

Bendamustine hydrochloride is a well known active substance which has been marketed for many years throughout the EU. No routine PSURs have to be submitted for this product as it is application based on Article 10(1) of Directive 2001/83/EU as amended, and otherwise is not specified in the EURD list.

The date for the first renewal will be: February 18, 2020.