LÄKEMEDELSVERKET
SWEDISH MEDICAL PRODUCTS AGENCY

Public Assessment Report
Scientific discussion

Tigecycline Viatris
(tigecycline)

SE/H/2921/001/DC

This module reflects the scientific discussion for the approval of Tigecycline Viatris. The Public Assessment Report was written in 2017 by the previous RMS MT after initial procedure MT/H/0238/001/DC and is attached at the end of this document. RMS transfer from MT to SE was completed 25 February 2026. For information on changes after this date please refer to the module 'Steps taken after the finalisation of the initial procedure - summary'.

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STEPS TAKEN AFTER THE FINALISATION OF THE INITIAL PROCEDURE - SUMMARY

Procedure number	Scope	Product Information affected (Yes/No)	Date of end of procedure	Approval/ non approval	Summary/ Justification for refuse
-	-	-	-	-	-

Summary Public Assessment Report

Generics

Tigecycline Mylan 50mg powder for solution for infusion

Tigecycline

MT/H/0238/001/DC

DATE: 21ST AUGUST 2017

Summary Public Assessment Report

Generics

Tigecycline Mylan 50mg powder for solution for infusion

This is a summary of the public assessment report (PAR) for Tigecycline Mylan. It explains how Tigecycline Mylan was assessed and its authorisation recommended as well as its conditions of use. It is not intended to provide practical advice on how to use Tigecycline Mylan.

For practical information about using Tigecycline Mylan, patients should read the package leaflet or contact their doctor or pharmacist.

What is Tigecycline Mylan and what is it used for?

Tigecycline Mylan is a 'generic medicine'. This means that Tigecycline Mylan is similar to a 'reference medicine' already authorised in the European Union (EU) called Tygacil.

The doctor prescribed Tigecycline because the adult or child patient of at least 8 years old has one of the following types of serious infections:

- Complicated infection of the skin and soft tissues (the tissue below the skin), excluding diabetic foot infections.
- Complicated infection in the abdomen

Tigecycline is only used when the doctor thinks other antibiotics are not suitable.

How does Tigecycline Mylan work?

Tigecycline is an antibiotic of the glycylcycline group that works by stopping the growth of bacteria that cause infections.

How is Tigecycline Mylan used?
The pharmaceutical form of Tigecycline Mylan is powder for solution for infusion and the route of administration is intravenous (directly into the blood stream).

Please read section 3 of the PL for detailed information on dosing recommendations, the route of administration, and the duration of treatment.

Tigecycline Mylan will be given by a doctor or a nurse.

The recommended dose is 100 mg given initially, followed by 50 mg every 12 hours. This dose is given intravenously (directly into the blood stream) over a period of 30 to 60 minutes.

The recommended dose in children aged 8 to <12 years is 1.2 mg/kg given every 12 hours intravenously to a maximum dose of 50 mg every 12 hours.

The recommended dose in adolescents aged 12 to <18 years is 50 mg given every 12 hours.

A course of treatment usually lasts for 5 to 14 days. The doctor will decide how long the treatment should last.

The medicine can only be obtained with a prescription.

What benefits of Tigecycline Mylan have been shown in studies?

No additional studies were needed as Tigecycline Mylan is a generic medicine that is given by intravenous infusion and contains the same active substance as the reference medicine, Tygacil.

What are the possible side effects of Tigecycline Mylan?

Because Tigecycline Mylan is a generic medicine, its benefits and possible side effects are taken as being the same as the reference medicine.

For the full list of restrictions, see the package leaflet.

Why is Tigecycline Mylan approved?

It was concluded that, in accordance with EU requirements, Tigecycline Mylan has been shown to have comparable quality and to be comparable to Tygacil. Therefore, the Malta Medicines Authority decided that, as for Tygacil, the benefits are greater than its risks and recommended that it can be approved for use.

What measures are being taken to ensure the safe and effective use of Tigecycline Mylan?

A risk management plan has been developed to ensure that Tigecycline Mylan is used as safely as possible. Based on this plan, safety information has been included in the summary of product characteristics and the package leaflet for Tigecycline Mylan, including the appropriate precautions to be followed by healthcare professionals and patients.

Known side effects are continuously monitored. Furthermore new safety signals reported by patients/healthcare professionals will be monitored/reviewed continuously as well.

Other information about Tigecycline Mylan

The marketing authorisation for Tigecycline Mylan was granted on 18th July 2017.

The full PAR for Tigecycline Mylan can be found on the website http://mri.ctsmrp.eu/Human/

For more information about treatment with Tigecycline Mylan, read the package leaflet http://www.medicinesauthority.gov.mt/advanced-search or contact your doctor or pharmacist.

This summary was last updated in August 2017.

CMDh/223/2005
February 2014

Public Assessment Report

Scientific discussion

Tigecycline Mylan 50mg powder for solution for infusion

Tigecycline

MT/H/0238/001/DC

DATE: 21ST AUGUST 2017

This module reflects the scientific discussion for the approval of Tigecycline Mylan 50mg powder for solution for infusion. The procedure was finalised on 22nd June 2017. For information on changes after this date please refer to the module 'Update'.

I. INTRODUCTION

Based on the review of the quality, safety and efficacy data, the Member States have granted a marketing authorisation for Tigecycline Mylan 50mg powder for solution for infusion, from Generics [UK] Limited t/a Mylan.

The product is indicated in adults and in children from the age of eight years for the treatment of the following infections:

• Complicated skin and soft tissue infections (cSSTI), excluding diabetic foot infections

• Complicated intra-abdominal infections (cIAI)

Tigecycline should be used only in situations where other alternative antibiotics are not suitable.
Consideration should be given to official guidance on the appropriate use of antibacterial agents.
A comprehensive description of the indications and posology is given in the SmPC.

The marketing authorisation has been granted pursuant to Article 10(1) of Directive 2001/83/EC.

The reference product for this application is Tygacil authorised by the European Medicines Agency in 2006. The Marketing Authorisation Holder is Pfizer Ltd.

The CMSs involved in this procedure were AT, CZ, DE, ES, FR, IT, PL, PT, RO, SE, UK.

The product is subject to medical prescription.

II. QUALITY ASPECTS

II.1 Introduction

Tigecycline Mylan 50 mg powder for solution for infusion is a lyophilised orange to orangered cake or powder to be reconstituted with sodium chloride 9 mg/ml (0.9%) solution for injection, dextrose 50 mg/ml (5 %) solution for injection, or Lactated Ringer’s solution for injection prior to intravenous administration. It is packed in a 5 ml Type I glass vial with a butyl stopper and a plastic cap.

Each vial contains 50 mg of tigecycline.

After reconstitution, 1 ml contains 10 mg of tigecycline.

List of excipients:
L-Arginine, Hydrochloric acid,
sodium hydroxide (for pH adjustment)

II.2 *Drug Substance*

Tigecycline is not described in the European Pharmacopoeia and an ASMF has been submitted in the context of this Marketing Authorisation application.

The manufacturing process has been adequately described and the expected information has been essentially included in the Restricted Part of the ASMF.

The control tests and specifications for drug substance product are adequately drawn up Stability studies have been performed with the drug substance. No significant changes in any parameters were observed.

II.3 Medicinal Product

The development of the product has been described and the choice of excipients is justified and their functions explained. The excipients used are commonly used in the manufacture of this pharmaceutical form. The method of sterilization is appropriately justified.

The manufacture of the finished product has been adequately described and sufficient details have been provided. The in-process controls are considered to be adequate. Satisfactory process validation data has been provided for three commercial scale batches of the finished product.

The product specifications cover appropriate parameters for this dosage form and the proposed limits are acceptable. Validations of the analytical methods have been presented. Batch analysis has been performed on three commercial scale batches. The batch analysis results show that the finished product meets the proposed specification.

Sufficient and adequate information is provided for the container closure system. The materials comply with the relevant guidelines / Ph. Eur. monographs.

To support the proposed shelf life, stability studies have been conducted on 3 batches of the finished product. All results are within specification limits. The proposed shelf-life of 24 months to be stored below 25° C, can be accepted based on the data provided. In-use stability data of finished product at the end of shelf-life has been provided. The data provided supports the proposed in-use shelf-life.

III. NON-CLINICAL ASPECTS

III.1 Introduction

Pharmacodynamic, pharmacokinetic and toxicological properties of tigecycline are well described. As tigecycline is a well-known active substance, no further studies are required and the applicant provides none. The non-clinical overview, refers to many publications including several recent ones. The company's literature based overview is seen to be appropriate for this generic product.

III.2 Ecotoxicity/environmental risk assessment (ERA)

Since Tigecycline Mylan 50mg powder for solution for infusion 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.

III.3 Discussion on the non-clinical aspects

The application is made under reference to article 10(1) of Directive 2001/83/EC as amended. Abridged applications avoid the need for repetitive tests on animals and humans.

IV. CLINICAL ASPECTS

IV.1 Introduction

The applicant states that it has not undertaken any clinical trials or pre-clinical evaluation with its product. This application for marketing authorisation is based on the Art 10(1) of the 2001/83/EC which allows the generic applicant to reference the clinical and non-clinical data from the originator. Therefore data is being provided from respected sources of literature which have been critically assessed.

IV.2 Pharmacokinetics

I.1.1.1 Biowaiver

The applicant states that Tigecycline Mylan 50 mg powder for solution for infusion is to be administered as an aqueous intravenous solution and it contains the active substance in the same concentration as the European reference product Tygacil 50mg powder for solution for infusion. The qualitative composition of Tigecycline Mylan 50 mg powder for solution for infusion is similar as the Tygacil 50mg powder for solution for infusion.

The excipients as used in the generic Tigecycline medicinal product are well-established and do not interact with the drug substance, as shown during the development studies (32P2) and in the stability program (32P8). Hence, the pharmacokinetics of the active substance is not affected.

Therefore, based on the EMEA/CPMP/EWP/QWP/1401/98 Rev. 1/Corr** guideline, a biowaiver is applicable for the test product and Tigecycline Mylan 50 mg powder for solution for infusion is considered bioequivalent to the innovator Tygacil 50mg powder for solution for infusion. Moreover, according to current legislation, a bioequivalence study is not required for an aqueous parenteral solution with comparable excipients in similar amounts.

IV.3 Risk Management Plan

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 Tigecycline Mylan 50mg powder for solution for infusion.

- Summary table of safety concerns as approved in RMP

Important identified risks	Thrombocytopenia Hepatotoxicity Anaphylaxis Pancreatitis Superinfection
Important potential risks	QTc prolongation/torsades de pointes *Clostridium difficile*-associated diarrhea and pseudomembranous colitis Lack of efficacy
Missing information	Use in paediatric patients <8 years of age Use in Pregnant women Use in patients on immunosuppressant therapy Use in patients with neutropenia

Pharmacovigilance Plan
Routine pharmacovigilance is suggested and no additional pharmacovigilance activities are proposed by the applicant, which is endorsed.

Risk minimisation measures
Routine risk minimisation is suggested and no additional risk minimisation activities are proposed by the applicant, which is endorsed.

Summary of the RMP

The submitted Risk Management Plan, version 1 dated 21st December 2016 is endorsed and considered to be final.

The MAH shall perform the required pharmacovigilance activities and interventions detailed in the agreed RMP presented in Module 1.8.2 of the Marketing Authorisation and any agreed subsequent updates of the RMP.

An updated RMP should be submitted:

- At the request of the RMS;
- Whenever the risk management system is modified, especially as the result of new information being received that may lead to a significant change to the benefit/risk profile or as the result of an important (pharmacovigilance or risk minimisation) milestone being reached.

If the dates for submission of a PSUR and the update of a RMP coincide, they can be submitted at the same time, but via different procedures.

Periodic Safety Update Report (PSUR)

- For medicinal products authorized under the legal basis of Article 10(1) or Article 10a of Directive 2001/83/EC, no routine PSURs need to be submitted, unless otherwise specified in the EURD list.

IV.4 Discussion on the clinical aspects

The application is made under reference to article 10(1) of Directive 2001/83/EC as amended. Abridged applications avoid the need for repetitive tests on animals and humans.

V. 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 Tygacil EMEA/H/C/000644 with regards to content and making reference to Dexketoprofen Galenicum 25 mg film-coated tablets PT/H/1001/002/DC with regards to design and layout. The bridging report submitted by the applicant was found to be acceptable.

VI. Overall conclusion, benefit/risk assessment and recommendation

The application contains a review of published clinical data which has been provided to support the claim that the proposed product is essentially similar to the originator.

Based on the review of the data on quality, safety and efficacy, the RMS considers that the application for Tigecycline Mylan 50mg powder for solution for infusion is approvable.