Summary of risk management plan for levofloxacin film-coated tablets and levofloxacin solution for infusion

This is a summary of the risk management plan (RMP) for levofloxacin. The RMP details important risks of levofloxacin, how these risks can be minimised, and how more information will be obtained about levofloxacin's risks and uncertainties (missing information).

Levofloxacin's summary of product characteristics (SmPC) and its package leaflet give essential information to healthcare professionals and patients on how levofloxacin should be used.

Important new concerns or changes to the current ones will be included in updates of levofloxacin's RMP.

I. The medicine and what it is used for

These medicines are authorised for the treatment of specific infections in adults (see SmPC for the full indication). They contain levofloxacin as the active substance and they are given by oral administration (film-coated tablets) or by intravenous route (solution for infusion).

II. Risks associated with the medicine and activities to minimise or further characterise the risks

Important risks of levofloxacin, together with measures to minimise such risks and the proposed studies for learning more about levofloxacin's risks, are outlined below.

Measures to minimise the risks identified for medicinal products can be:

- Specific information, such as warnings, precautions, and advice on correct use, in the package leaflet and SmPC addressed to patients and healthcare professionals;
- Important advice on the medicine’s packaging;
- The authorised pack size — the amount of medicine in a pack is chosen so to ensure that the medicine is used correctly;
- The medicine’s legal status — the way a medicine is supplied to the patient (e.g. with or without prescription) can help to minimise its risks.

Together, these measures constitute *routine risk minimisation* measures.

In the case of levofloxacin, these measures are supplemented with *additional risk minimisation measures* mentioned under relevant important risks, below.

In addition to these measures, information about adverse reactions is collected continuously and regularly analysed, including PSUR assessment so that immediate action can be taken as necessary. These measures constitute *routine pharmacovigilance activities*.

II.A List of important risks and missing information

Important risks of levofloxacin are risks that need special risk management activities to further investigate or minimise the risk, so that the medicinal product can be safely administered.

Important risks can be regarded as identified or potential. Identified risks are concerns for which there is sufficient proof of a link with the use of levofloxacin. Potential risks are concerns for which an association with the use of this medicine is possible based on available data, but this association has not been established yet and needs further evaluation. Missing information refers to information on the safety of the medicinal product that is currently missing and needs to be collected (e.g. on the long-term use of the medicine);

List of important risks and missing information	
Important identified risks	Tendinopathy
	Peripheral neuropathy
Important potential risks	Long-lasting, disabling and potentially irreversible adverse drug reactions
	Aortic aneurysm and dissection
Missing information	None

II.B Summary of important risks

Important identified risks: Tendinopathy	
Risk minimisation measures	Routine risk minimisation measures: *SmPC section 4.4, 4.8* *PIL section 2, 4* Additional risk minimisation measures: *Direct Healthcare Professional Communication* was sent to the health care professionals, to increase the awareness of healthcare professionals regarding the risk of tendinitis, rupture of tendon, muscle pain, muscle weakness, joint pain, joint swelling, peripheral neuropathy, effects on the central nervous system and other long term, persistent, potentially irreversible ADRs associated with use of levofloxacin, and the associated changes to the product information.

Important identified risks: Peripheral neuropathy	
Risk minimisation measures	Routine risk minimisation measures: *SmPC section 4.4, 4.8* *PIL section 2, 4* Additional risk minimisation measures: *Direct Healthcare Professional Communication* was sent to the health care professionals, to increase the awareness of healthcare professionals regarding the risk of tendinitis, rupture of tendon, muscle pain, muscle weakness, joint pain, joint swelling, peripheral neuropathy, effects on the central

	nervous system and other long term, persistent, potentially irreversible ADRs associated with use of levofloxacin, and the associated changes to the product information.

Important potential risks: Long-lasting, disabling and potentially irreversible adverse drug reactions	
Risk minimisation measures	Routine risk minimisation measures: *SmPC section 4.4, 4.8* *PIL section 2, 4* Additional risk minimisation measures: *Direct Healthcare Professional Communication* was sent to the health care professionals, to increase the awareness of healthcare professionals regarding the risk of tendinitis, rupture of tendon, muscle pain, muscle weakness, joint pain, joint swelling, peripheral neuropathy, effects on the central nervous system and other long term, persistent, potentially irreversible ADRs associated with use of levofloxacin, and the associated changes to the product information.

Important potential risks: Aortic aneurysm and dissection	
Risk minimisation measures	Routine risk minimisation measures: *SmPC section 4.4* *PIL section 2* Additional risk minimisation measures: *Direct Healthcare Professional Communications* letter to increase the awareness on the risk of aortic aneurysm and dissection and the associated changes to the product information.

II.C Post-authorisation development plan

II.C.1 Studies which are conditions of the marketing authorisation

There are no studies which are conditions of the marketing authorisation or specific obligation of levofloxacin.

II.C.2 Other studies in post-authorisation development plan

There are no studies required for levofloxacin.