VI.2 Elements for a Public Summary

VI.2.1 Overview of disease epidemiology

Chronic obstructive pulmonary disease COPD constricts a patient's airways, and leads to difficulty breathing. Smoking, outdoor air pollution, occupational exposures and a history of asthma are the main risk factors for COPD. Genetic factors may also be important.

COPD ranked fourth in 2004 as a leading cause of death, attributable for 5.1% of all deaths worldwide, and is projected to become the third leading cause of death in the world by 2030 (with 8.6% of all deaths worldwide). The World Health Organization (WHO) estimates that about 64 million people currently have COPD. About 200,000 to 300,000 people die in Europe from COPD each year.

People who have COPD also frequently have other common illnesses such as hypertension, diabetes mellitus, heart failure, or psychiatric illness. Patients with COPD are at significantly higher risk of having depressive symptoms that are strongly associated with a lower quality of life.

VI.2.2 Summary of treatment benefits

Clinical trials with tiotropium bromide showed that:

- Tiotropium bromide is efficacious for 24 hours after inhalation.
- Treatment with tiotropium bromide can reduce the risk of COPD exacerbations (flare-ups), reduce dyspnoea (shortness of breath) and improve quality of life.
- Tiotropium bromide improves lung function in COPD.
- Patients taking tiotropium bromide use their rescue inhalers less often than patients on placebo.

VI.2.3 Unknowns relating to treatment benefits

Clinical experience with tiotropium bromide in pregnant or breast-feeding women is very limited.

There are no data available to state that efficacy is either enhanced or reduced in specific populations. Information on the potential long-term effects of tiotropium bromide in children is not yet available.

VI.2.4 Summary of safety concerns

Important identified risks

None.

Important potential risks

Risk	What is known (Including reason why it is considered a potential risk)
Cardiac mortality	This is a potential risk for any patient with COPD.
Blood and lymphatic system disorders	Certain co-morbidities and concomitant medications prevalent in the elderly COPD patient population may account for a considerable number of blood dyscrasias.
Blood glucose increased	COPD is frequently associated with type 2 diabetes mellitus, and this risk is monitored for that reason. There is no evidence that patients using tiotropium bromide are at greater risk of increased blood glucose than other patients.
Psychiatric disorders	Depression, anxiety, panic attacks, and other psychiatric disorders are common in patients with COPD, and this risk is monitored for that reason. However, there is no evidence that patients using tiotropium bromide are at greater risk of psychiatric disorders than other patients.
Syncope	Syncope (fainting) is common in the elderly, including those with COPD, and this risk is monitored for that reason. However, there is no evidence that patients using tiotropium bromide are at greater risk of syncope than other patients.
Cardiac disorders (ischaemic heart disease, myocardial infarction, cardiac arrhythmia, cardiac failure, angina pectoris)	Cardiac disorders are common in older people, including those with COPD. There is no evidence that patients using tiotropium bromide are at greater risk of cardiac disorders in general than other patients.
Vascular disorders (aneurysm, hypertension)	Aneurysm and hypertension are common in patients with COPD, and the risk increases with age. However, there is no evidence to suggest that patients using tiotropium bromide are at greater risk of aneurysm or hypertension than other patients.
Renal failure	Renal failure is a potential risk for older people, including those with COPD, and this risk is monitored for that reason. However, there is no evidence that patients using tiotropium bromide are at greater risk of renal failure than other patients.
Overdose	Overdose of any drug is an issue of concern. The highest exposure of tiotropium bromide tested in clinical studies was a single dose of 340 mcg in healthy volunteers. No adverse signs or symptoms were observed at this dose.
Medication errors	Incorrect handling of the inhaler may lead to decreased effect of the medication.

Missing information

Risk	What is known
Treatment of pregnant and/or breastfeeding women	Pregnant and breastfeeding women were not allowed to take part in COPD clinical trials for their own safety. Therefore, there is no clinical experience using tiotropium bromide in these women.
Treatment of children (aged 18 years or younger)	As COPD is a disease of adulthood, children aged under 18 years were not included in any of the trials with tiotropium bromide in COPD.
Patients with a recent history of myocardial infarction, unstable or life-threatening cardiac arrhythmia, paroxysmal tachycardia, and decompensated heart failure	Patients with serious, unstable cardiac conditions were excluded from COPD clinical trials. Although very few patients who enrolled in these clinical trials had a history of, or experienced a cardiac disorder during the trials, the data are too limited to draw any conclusion.

VI.2.5 Summary of risk minimisation measures by safety concern

All medicines have a Summary of Product Characteristics (SmPC) which provides physicians, pharmacists and other health care professionals with details on how to use the medicine, the risks and recommendations for minimising them. An abbreviated version of this in lay language is provided in the form of the package leaflet (PL). The measures in these documents are known as routine risk minimisation measures.

If requested nationally, the MAH will implement additional risk minimisation measures for the following risk:

Risk minimisation measure(s)
Medication errors Healthcare Professional education *Objective and rationale:* To educate Healthcare Professionals about the risk of medication errors possible to occur with tiotropium, in order to be able to train the patient on proper administration of the medicinal product *Proposed action:* Circulation of HCP educational materials prior to launch.

VI.2.6 Planned post authorisation development plan

Not applicable.

VI.2.7 Summary of changes to the Risk Management Plan over time

Not applicable.