Report on New Patented Drugs – Spiriva

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Under its transparency initiative, the Board publishes the results of the reviews of new patented drugs by Board Staff, for purposes of applying the PMPRB's Price Guidelines for all new active substances introduced after January 1, 2002.

Brand Name:	Spiriva
Generic Name:	tiotropium bromide
DIN:	02246793 18 mcg per capsule
Patentee:	Boehringer Ingelheim Canada Ltd
Indication (as per product monograph):	Spiriva (tiotropium bromide) is indicated for the long term, once daily, first line maintenance treatment of bronchospasm and relief of dyspnea associated with chronic obstructive pulmonary diseases (COPD), including chronic bronchitis and emphysema.
Notice of Compliance:	November 20, 2002
Date of First Sale:	November 21, 2002
ATC Class:	RO3BB04 *Drug for obstructive airway diseases; other drugs for obstructive airway diseases, inhalants; anticholinergics*

Application of the Guidelines

Summary:

The introductory price of Spiriva was found to be within the Guidelines because the cost of therapy did not exceed the cost of therapy of existing drugs in the therapeutic class comparison and the price did not exceed the range of prices in other comparator countries where Spiriva was sold.

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The Therapeutic Class Comparison (TCC) test of the Guidelines provides that the price of a category 3 new drug product cannot exceed the prices of other drugs that treat the same disease or condition. Comparators are generally selected from among existing drug products in the same 4th level of the Anatomical, Therapeutic, Chemical (ATC) System that are clinically equivalent in addressing the approved indication. The Guidelines provide that it may, however, be appropriate to include products from other ATC classes if they are clinically equivalent for the appropriate indication to the drug product under review. See the PMPRB's *Compendium of Guidelines, Policies and Procedures* for a more complete description of the Guidelines and the policies on TCCs.

Scientific Review:

Spiriva is a new active substance and the PMPRB's Human Drug Advisory Panel (HDAP) reviewed it as a category 3 new medicine (provides moderate, little or no therapeutic advantage over comparable medicines).

Spiriva is the second entry in its 4th level ATC class to be introduced in Canada. The only other medication within the same 4th level ATC class is Atrovent (ipratropium). Atrovent is the only other anticholinergic presently on the Canadian market for the treatment of COPD, emphysema and chronic bronchitis. The results of two comparative clinical trials (van Noord et al and Vicken et al) suggest that Spiriva is more efficacious than Atrovent.

The most recently published guidelines on the management of COPD (Chronic Obstructive Lung Disease Workshop Summary 2001) state that bronchodilators are central to symptom management of COPD. Bronchodilators listed in the guidelines include the anticholinergic ipratropium, the long-acting beta agonists formoterol and salmeterol, short acting beta agonists salbutamol, terbutaline, and fenoterol, and the methylxanthines aminophylline and theophylline.

The inhaled bronchodilators are preferred over the oral methylxanthines as the methylxanthines may cause more adverse effects, require regular blood work and can interact with several other medications. Methylxanthines are not first line and they are not available in inhalation form. The HDAP did not recommend their inclusion in the TCC for Spiriva.

The HDAP recommended all single agent inhaled bronchodilators used in the management of COPD be included in the TCC for Spiriva. These are Serevent (salmeterol), Foradil (formotorol), Oxeze (formotorol), Atrovent (ipratropium), Ventolin (salbutamol), Berotec (fenotorol), and Bricanyl (terbutaline).

The PMPRB's Guidelines provide that the dosage recommended for comparison purposes will normally not be higher than the maximum of the usual recommended dosage. The recommended comparable dosage regimens for Spiriva and the comparators are based on their respective product monographs and supported by clinical literature. See the table below.

Price Review:

Under the Guidelines, the introductory price for a new category 3 drug product will be presumed to be excessive if it exceeds the price of all of the comparable drug products based on the TCC test, or if it exceeds the prices of the same medicine in the seven countries listed in the *Patented Medicines Regulations*.

As shown in the following table, the price of Spiriva was within the Guidelines relative to the TCC test as it did not exceed the prices of the other drugs in the therapeutic class.

Name	Strength	Dosage Regimen/day	Unit Price	Cost Per Day
Spiriva	18 mcg/cap	18 mcg once	$2.10/cap[1]	$2.10
Serevent Diskus	50 mcg/dose	50 mcg bid (100 mcg)	$0.83/dose[2]	$1.66
Ventolin	100 mcg/dose	200 mcg qid (800 mcg)	$0.06/dose[2]	$0.48
Berotec	100 mcg/dose	200 mcg qid (800 mcg)	$0.05/dose[2]	$0.40
Atrovent	40 mcg/dose	80 mcg qid (320 mcg)	$0.08/dose[2]	$0.64
Bricanyl	500 mcg/dose	1000 mcg qid (4000 mcg)	$0.07/dose[2]	$0.56
Oxeze	12 mcg/dose	24 mcg bid (48 mcg)	$0.71/dose[2]	$2.84
Foradil	12 mcg/cap	24 mcg bid (48 mcg)	$0.71/cap[2]	$2.84

1 Provincial Reimbursement Advisor, May 2003

2 Ontario Drug Benefit Formulary, 2002

In 2002, Spiriva was also sold in Germany, Sweden, and the United Kingdom. In compliance with the Guidelines, the price in Canada did not exceed the range of prices in those countries. The price in Canada was the lowest of these countries.

Where comparators and dosage regimens are referred to in the Summary Reports, they have been selected by the PMPRB Staff and the HDAP for the purpose of carrying out the PMPRB's regulatory mandate, which is to review the prices of patented medicines sold in Canada to ensure that such prices are not excessive. The publication of these reports is also part of the PMPRB's commitment to make its price review process more transparent.

The information contained in the PMPRB's Summary Reports should not be relied upon for any purpose other than its stated purpose and is not to be interpreted as an endorsement, recommendation or approval of any drug nor is it intended to be relied upon as a substitute for seeking appropriate advice from a qualified health care practitioner. ■

Evidence/ References:

The references are available on the PMPRB website, under Publications, Patented Medicines; Reports on New Patented Drugs; Spiriva.

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