October 2006

Report on New Patented Drugs - Invanz

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

Brand Name: Invanz

Generic Name: *(ertapenem sodium)*

DIN: 02247437 1 gm/vial

Patentee: Merck Frosst Canada & Co.

Indication - as per product monograph:

For the treatment of adult patients with the following moderate to severe infections caused by susceptible strains of the designated microorganisms :

Complicated intra-abdominal infections due to *Escherichia coli*, *Clostridium clostridioforme*, *Eubacterium lentum*, *Peptostreptococcus* species, *Bacteroides fragilis*, *Bacteroides distasonis*, *Bacteroides ovatus*, *Bacteroides uniformis*, and *Bacteroides thetaiotaomicron*.

Complicated skin and skin structure infections due to *Staphylococcus aureus* (methicillin susceptible strains only), *Streptococcus pyogenes*, *Escherichia coli*, *Peptostreptococcus* species.

Community acquired pneumonia due to *Streptococcus pneumoniae* (penicillin susceptible strains only) *Haemophophilus influenzae* (B-lactamase negative strain only), or *Moraxella catarrhalis*.

Complicated urinary tract infections including pyelonephritis due to *Escherichia coli*, *Klebsiella pneumoniae*, *Proteus mirabilis*.

Acute pelvic infections including postpartum endomyometritis, septic abortion and post surgical gynecological infections due to *Streptococcus agalactiae*. *Escherichia coli*, *Peptostreptococcus* species, *Bacteroides fragilis*, *Porphyromonas asaccharolytica*, or *Prevotella* species.

Date of Issuance of First Patent(s) Pertaining to the Medicine:	September 16, 2003
Notice of Compliance:	May 12, 2003
Date of First Sale:	July 27, 2003
ATC Class:	J01DH03 *Antiinfectives for Systemic Use, Antibacterials for Systemic Use, Other Beta-Lactam Antibacterials, Carbapenems*

APPLICATION OF THE GUIDELINES

Summary

The introductory price of Invanz 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 prices of the same medicine in the comparator countries where Invanz was sold.

Scientific Review

The Guidelines provide that new DINs with multiple approved indications will be categorized based on the approved indication for which the medicine offers the greatest therapeutic advantage in relation to alternative therapies for the same indication in a significant population. Where there is no apparent single approved indication for which the medicine offers the greatest therapeutic advantage, the approved indication representing, potentially, the greatest proportion of sales will be the basis for categorization and selection of comparable medicines.

The PMPRB's Human Drug Advisory Panel (HDAP) recommended that the primary indication for Invanz is:
Complicated intra-abdominal infections due to *Escherichia coli*, *Clostridium clostridioforme*, *Eubacterium lentum*, *Peptostreptococcus* species, *Bacteroides fragilis*, *Bacteroides distasonis*, *Bacteroides ovatus*, *Bacteroides uniformis*, and *Bacteroides thetaiotaomicron*. The HDAP was not able to determine the primary indication based on the approved indication for which Invanz offers the greatest therapeutic advantage. The HDAP made its determination on primary indication based on the one that represents, potentially, the greatest proportion of sales.

Invanz is a new active substance and the HDAP recommended that Invanz be reviewed as a category 3 new medicine (provides moderate, little or no therapeutic advantage over comparable medicines).

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. See the PMPRB's *Compendium of Guidelines, Policies and Procedures* for a more complete description of the selection of the Guidelines and the policies on TCCs.

The HDAP identified Merrem (*meropenem*) and Primaxim IV (*imipenen/cilastatin sodium*) as comparable medicines. They share the same 4th level ATC class, the same indication and are clinically equivalent in addressing the primary indication of Invanz. Based on published comparative clinical trials, the HDAP also recommended the inclusion of Tazocin (*piperacillin/tazobactam*) and Rocephin (*ceftriaxone*) in combination with Metronidazole.

The Guidelines provide that the dosage regimen for comparison purposes will normally not be higher than the maximum of the usual recommended dosage. The recommended comparable dosage regimens for Invanz and the comparable medicines are based on the respective product monographs and supported by clinical literature.

Price Review

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

The introductory price of Invanz was within the Guidelines as the cost of treatment did not exceed the cost per treatment with the comparable medicines.

Introductory Period: July to December 2003

Name	Strength	Dosage Regimen (7 days)	Unit Price	Cost Per Treatment
Invanz	1 gm/vial	7 vials	$49.9500[1]	$349.6500
Merrem	1 gm/vial	21 vials	$47.2800[2]	$992.8800
Primaxin IV	500 mg/ 500 mg/vial	28 vials	$24.6700[2]	$690.9600
Rocephin and Metronidazole	2 gm/vial plus 5 mg/mL (100 mL PVC)	7 vials plus 21 PVC	$67.0000[2] + $0.1421[3]	$471.9841
Tazocin	3 gm/375 gm/vial	28 vials	$15.9000[2]	$445.2000

[1] Publicly available price as per the Patented Medicines Regulations
[2] Liste des médicaments, Régie de l'assurance maladie du Québec, October 2003
[3] Association québécoise des pharmaciens propriétaires (AQPP), October 2003

In 2003, Invanz was being sold in four of the seven countries listed in the Regulations, namely France, Sweden, United Kingdom, and the United States. 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.

References – Invanz

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