# Report on New Patented Drugs - Alimta

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 after January 1, 2002.

Brand Name: Alimta

**Generic Name:** (pemetrexed disodium)

**DIN:** 02253437 500 mg vial

Patentee: Eli Lilly Canada Inc.

Indication - as per product monograph:

As first line therapy, Alimta is indicated in combination with cisplatin for the treatment of patients with malignant pleural mesothelioma (MPM) whose disease is unresectable or who

are otherwise not candidates for curative surgery.

Date of Issuance of First Patent(s) Pertaining

to the Medicine: July 25, 2000

Notice of Compliance: May 21, 2004

Date of First Sale: July 29, 2004

ATC Class: L01BA04

Antineoplastic and Immunomodulating Agents –Folic Acid

Analogues

#### **APPLICATION OF THE GUIDELINES**

## Summary

The introductory price of Alimta 500 mg vial was found to be within the Guidelines because its price in Canada did not exceed the prices in the other comparator countries where Alimta 500 mg vial was sold. Although Alimta represents a category 3 new medicine under the Guidelines, it was not possible to identify comparator drug products for purposes of conducting a Therapeutic Class Comparison (TCC) test under the Guidelines, and therefore the median of the International Price Comparison (IPC) test was used in determining the maximum non-excessive (MNE) price of Alimta.

#### Scientific Review

The PMPRB's Human Drug Advisory Panel (HDAP) recommended that Alimta be classified as a category 3 new medicine (provides moderate, little or no therapeutic advantage over comparable medicines).

The HDAP further recommended that, as there is no standard therapy for the treatment of MPM, and since no comparative clinical studies on combination therapies are available, it was not possible to identify comparator drug products for purposes of conducting a TCC test under the Guidelines.

## **Price Review**

Under the Guidelines, in circumstances where it is not possible or appropriate to conduct a TCC test for a new category 3 drug product, the MNE price is determined with reference to the median of the prices of the same medicine in the seven countries listed in the *Patented Medicines Regulations*, 1994 (Regulations). The price of Alimta 500 mg vial was within the Guidelines in the first 30-day sales of the medicine from July 29, 2004, as its price in Canada did not exceed the price of Alimta 500 mg vial in the only other country in which it was then sold, the United States. Alimta 500 mg vial was subsequently introduced for sale in two other countries listed in the Regulations during the last months of 2004 (Germany and Sweden). The following table identifies the prices of Alimta 500 mg vial in relation to those countries in which it was then sold:

Country	Price per vial (CDN\$)
Canada	\$2750.0000
Germany	\$2163.8000
Sweden	\$2145.4800
United States	\$2865.1400
International Median	\$2163.8000

**Source:** Publicly available prices as per the *Patented Medicines Regulations*, 1994.

In 2005, when Alimta 500 mg vial was sold in all of the seven countries listed in the Regulations, its price in Canada did not exceed the median price of those countries, and was therefore within the Guidelines. The following table sets out the prices of Alimta 500 mg vial in relation to the other listed countries:

Country	Price per vial (CDN\$)
Canada	\$2,115.6900
Germany	\$2,295.8600
Sweden	\$2,289.6800
France	\$1,907.9100
Italy	\$2,297.4500
Switzerland	\$2,239.4600
United Kingdom	\$1,880.1500
United States	\$2,698.1200
International Median	\$2,289.6800

Source: Publicly available prices as per the Patented Medicine Regulations, 1994.

Where comparators and dosage regimens are referred to in the Summary Reports, they have been selected by 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 - Alimta

- 1. Abstracts reprinted from American Society of Clinical Oncology meeting proceedings, volume 22, 2003, Chicago IL.
- 2. Adjei AA, Erlichman C, Sloan JA, *et al.* Phase I and pharmacologic study of sequences of gemcitabine and the multitargeted antifolate agent in patients with advanced solid tumors. J Clin Oncol 2000;18:1748-57.
- 3. Anon. Pemetrexed (Alimta) for mesothelioma. Med Let 2004;46(1180):312.
- Cancer Care Ontario. Lung Malignant Mesothelioma. Chemotherapy Regimens. (Updated January 2004). Available from: <a href="http://www.cancercare.on.ca/access">http://www.cancercare.on.ca/access</a> 152.htm#mesothelioma (accessed 18 October 2004).
- 5. Catalano A, Gianni W, Procopio A. Experimental therapy of malignant mesothelioma: new perspectives from anti-angiogenic treatments. Crit Rev Oncol/Hematol 2004:0:101-9.
- 6. Drug Product Database [database online]. Health Canada. Available from: http://www.hc-sc.gc.ca/hpb/drugs-dpd/index.html (accessed 27 Oct 2004).
- 7. Gadgeel SM, Pass HI. Novel combinations using pemetrexed in malignant mesothelioma. Clin Lung Cancer 2004;5(Suppl 2):S61-6.
- 8. Hughes A, Calvert P, Azzabi A, *et al.* Phase I clinical and pharmacokinetic study of pemetrexed and carboplatin in patient with malignant pleural mesothelioma. J Clin Oncol 2002;20:3533-44.
- 9. Jaane PA, Obasaju C, Simon G, *et al.* A phase 2 clinical trial of pemetrexed plus gemcitabine as front-line chemotherapy for patients with malignant pleural mesothelioma (MPM)[abstract]. J Clin Oncol 2004;22(14S):7053 Available from: <a href="http://www.asco.org/ac/1,1003">http://www.asco.org/ac/1,1003</a>, 12-002643-00 18-0026-00 19-002154,00.asp (accessed 9 Nov 2004).
- 10. Karthaus M, Metzner D, Maher G, et al. Pemetrexed + cisplatin (DDP) in patients with malignant peritoneal mesothelioma [abstract]. J Clin Oncol 2004;22(14S):7201. Available from: <a href="http://www.asco.org/ac/1,1003">http://www.asco.org/ac/1,1003</a>, 12-002643-00 18-0026-00 19-002781,00.asp (accessed 9 Nov 2004).
- 11. Manegold C. Pemetrexed (Alimta, MTA, multitargeted antifolate, LY231514) for malignant pleural mesothelioma. Semin Oncol 30 (suppl 10):32-6.

- Maziak DE, Gagliardi A, Mackay JA, et al. Lung Cancer DSG Publication Surgical Management of Malignant Plural Mesothelioma. Evidence Summary Report #7-14-2.Cancer Care Ontario. Available from: <a href="https://www.cancercare.o.ca/print/access\_1100.htm">www.cancercare.o.ca/print/access\_1100.htm</a> (accessed 18 Oct 2004).
- 13. National Cancer Institute. Malignant Mesothelioma (PDQ): Treatment (Health Professional Version). US National Institutes of Health. Available from: <a href="http://www.cancer.gov/cancertopics/pdq/treatment/malignantmesothelioma/">http://www.cancer.gov/cancertopics/pdq/treatment/malignantmesothelioma/</a> HealthProfessional (accessed 18 Oct 2004).
- 14. National Institute for Clinical Excellence. Appraisals in Development. Mesothelioma Pemetrexed disodium. Available from: www.nice.org/uk/page.aspx?0=20707. (accessed 18 Oct 2004).
- 15. New ATC Codes and DDDs. WHO Collaborating Centre for Drug Statistics Methadology. Available from: http://www.whocc.no/atcddd/ (accessed 27 Oct 2004).
- 16. Parker C, Neville E. Lung Cancer. 8: Management of malignant mesothelioma. Thorax 2003;58:809-13.
- 17. Product Monograph of Alimta (pemetrexed disodium). Eli Lilly Canada Inc. Toronto, On. May 21, 2004.
- 18. Repchinsky C, ed. Compendium of Pharmaceuticals and Specialties. Canadian Pharmacists Association. Ottawa, On. 2004.
- 19. Rusch VW. Pemetrexed and cisplatin for malignant pleural mesothelioma: A new standard of care? J Clin Oncol 2003;21(14):2629-30.
- 20. Scagliotti GV, Shin DM, Kindler HL, *et al.* Phase II study of pemetrexed with and without folic acid and vitamin B12 as front-line therapy in malignant pleural mesothelioma. J Clin Oncol 2003;21:1556-61.
- 21. Solimando DA Jr, Waddell JA. Cancer chemotherapy update. Hosp Pharm 2004;39(7):628-33.
- 22. Steele JPC. The new front line treatment for malignant pleural mesothelioma? Thorax 2003:58:96/7.
- 23. Suwanrusme H, Meyer ML, Green MR. Pemetrexed alone and in combination with platinum compounds in the management of malignant mesothelioma. Clin Lung Canc 2004;5(suppl 2):S56-60.
- 24. Thodmann R, Depenbrock H, Dumez H, *et al.* Clinical and pharmacokinetic phase I study of multitargeted antifolate (LY231514) in combination with cisplatin. J Clin Oncol 17:3009-3016.

- 25. Tomek S, Emri S, Krejcy K, Manegold C. Chemotherapy for malignant pleural mesothelioma: past results and recent developments. Br J Cancer 2003;88:167-74.
- 26. Tomek S, Manegold C. Chemotherapy for malignant pleural mesothelioma: past results and recent developments. Lung Cancer 2004;45S (suppl):S103-119).
- 27. Van Meerbeeck JP, Manegold C, Gaafar R, et al. A randomized phase III study of cisplatin with or without raltitrexed in patients (pts) with malignant pleural mesothelioma (MPM): An intergroup study of the EORTC Lung Cancer Group and NCIC [abstract]. J Clin Oncol 2004;(14S):7021. Available from: <a href="http://www.asco.org/ac/1,1003">http://www.asco.org/ac/1,1003</a>, 12-002643-00 18-0026-00 19-001437,00.asp (accessed 10 Nov 2004).
- 28. Van Ruth S, Baas P, Zoetmulder FAN. Surgical treatment of malignant pleural mesothelioma: A review. CHEST 2004; 123:551-61.
- 29. Vogelzang NJ, Rusthoven JJ, Symanowski J, *et al.* Phase III study of emetrexed in combination with cisplatin versus cisplatin alone in patients with malignant pleural mesothelioma. J Clin Oncol 2003;21(14):2635-44.
- 30. Vogelzang NJ. Et al. Phase III study of pemetrexed in combination with cisplatin versus cisplatin alone in patients with malinant pleural mesothelioma. J of Clin. Oncology: 21(14)2003;2636-2544.
- 31. Zellos LS, Sugarbaker DJ. Diffuse malignant mesothelioma of the pleural space and its management. Oncology 2002;16(7):907-13, 16-17, 19-20.