NATIONAL PBM BULLETIN

MAY 6, 2009

VETERANS HEALTH ADMINISTRATION PHARMACY BENEFITS MANAGEMENT SERVICES (PBM), MEDICAL ADVISORY PANEL (MAP), & CENTER FOR MEDICATION SAFETY (VA MEDSAFE)

MACRODANTIN® AND MACROBID®: POTENTIAL LOOK-ALIKE/SOUND-ALIKE (LA/SA) CONFUSION

I. ISSUE [1]

One local facility noted a look-alike/sound-alike error between nitrofurantoin products:

- WRONG PRODUCT DISPENSED:
  Local prescription orders for "nitrofurantoin macrocryst 100mg cap" (Macrodantin®) were incorrectly filled and dispensed with nitrofurantoin macrocrystalline/monohydrate 100mg capsules (Macrobid®).
- WRONG DOSING SCHEDULE DUE TO PRODUCT CONFUSION:
  CMOP prescriptions for "nitrofurantoin macrocryst 100mg cap" were correctly filled and dispensed with the Macrodantin® product. However, upon review of active prescriptions for "nitrofurantoin macrocryst 100mg cap", the facility found that >90% were written for a twice daily dosing schedule, indicating providers believed the product to be Macrobid® instead. Therefore, patients were receiving inappropriately low doses of Macrodantin® which is usually administered four times daily.

II. BACKGROUND [1-3]

Macrodantin® and Macrobid® are different formulations of nitrofurantoin, both used in the treatment of urinary tract infections. Macrodantin® is a formulation of nitrofurantoin comprised of macrocrystals. Macrobid® is a formulation comprised of nitrofurantoin macrocrystals (25% of the drug) and nitrofurantoin monohydrate (the remaining 75% of the drug). Nitrofurantoin macrocrystals have a slower dissolution and rate of absorption than nitrofurantoin monohydrate. Macrodantin® is usually administered four times a day, while Macrobid® has twice a day dosing as this formulation delivers nitrofurantoin over a period of time.

As a result of this incident, the facility removed Macrodantin® product from all areas and replaced with Macrobid®. The orderable item nitrofurantoin in VISTA was updated to include Macrobid® as part of the name. A chart review was conducted on all patients who received nitrofurantoin from CMOP to assess clinical efficacy of receiving the Macrodantin® product twice daily instead of the appropriate four times a day schedule. No adverse outcomes have been reported. Risk Management and Patient Safety were notified, as well as the Chief of Staff's office and the Pharmacy and Therapeutics Committee.

III. FACILITY/PROVIDER RECOMMENDATIONS

1. Utilize only the drug on national formulary (nitrofurantoin macrocrystalline/monohydrate, Macrobid®) unless compelling reasons exist to have nitrofurantoin macrocryst (Macrodantin®) as well.
2. Ensure nitrofurantoin macrocryst (Macrodantin®) is marked as "Non-Formulary" in the drug file.
3. Review orderable item and possible dosage settings for (nitrofurantoin macrocrystalline/monohydrate, Macrobid®) and nitrofurantoin macrocryst (Macrodantin®).
4. If both are available, then:
   a. Staff must be informed of potential look-alike/sound-alike confusion between Macrodantin® and Macrobid®.
   b. Pharmacy must store Macrodantin® and Macrobid® in separate areas in the pharmacy.
   c. Pharmacy must create a warning system for staff to notify of potential look-alike/sound-alike confusion between Macrodantin® and Macrobid® (i.e., computer alerts during the ordering/verifying process and/or warning stickers on packaging).
   d. Name of drug used must be verified with the name of the drug on the prescription.

IV. REFERENCES

1. Field Information Report.
2. Macrobid® package insert. Cincinnati, OH: Proctor and Gamble Pharmaceuticals, Inc.; 2007 Oct.
3. Macrodantin® package insert. Cincinnati, OH: Proctor and Gamble Pharmaceuticals, Inc.; 2006 Dec.

ACTIONS:

- ***Facility COS and Chief Nurse Executive:*** *Forward this document to all appropriate providers who prescribe/use/handle this agent (e.g.,* ***primary care providers, infectious disease specialists, ED clinicians, renal specialists, Women's Health providers and GU clinicians,*** *including contract providers, etc.). In addition, forward to the Associate Chief of Staff (ACOS) for Research and Development (R&D). Forward to other VA employees as deemed appropriate. Report completion of actions to the Facility Director.*
- ***ACOS for R&D:*** *Forward this document to Principal Investigators (PIs) who have authority to practice at the facility and to your respective Institutional Review Board (IRB).*