Pharmacy FAQ

Dexrazoxane (Zinecard®)

1. What is dexrazoxane and what it is used for?

Dexrazoxane is primarily used as a cardioprotectant against doxorubicin-induced cardiotoxicity. As a derivative of ethylene diamine tetraacetic acid (EDTA), dexrazoxane chelates iron and reduces the number of metal ions complexed with anthracyclines, consequently decreasing the formation of the superoxide radicals thought to be associated with anthracycline-induced cardiotoxicity.[1] Dexrazoxane can be used in conjunction with doxorubicin in patients who have reached a maximum cumulative dose, but would benefit from continued therapy.

NOTE: a CAP approval is required for reimbursement in the adult cancer setting.

2. How is dexrazoxane prepared?

The preparation of dexrazoxane involves both reconstitution ***and*** further dilution as described below:[2]

- Reconstitute vial with *Sterile Water for Injection, USP*
    - The concentration of the reconstituted solution is 10 mg/mL
    - Reconstituted vials are stable for 30 minutes at room temperature or up to 3 hours under refrigeration
- Add the required volume of the reconstituted solution to an empty viaflex bag
- Further dilute the reconstituted solution with *Lactated Ringers Injection, USP*, to a final concentration range of 1.3 – 3 mg/mL
    - The final product is stable for 1 hour at room temperature or up to 4 hours under refrigeration

3. In what sequence should the drugs be given?

Dexrazoxane is administered via intravenous infusion *first*. Doxorubicin should be administered *within 30 MINUTES* of the completion of the dexrazoxane infusion.

4. The product monograph indicates that dexrazoxane should be infused over 15 minutes, but the prescribed dose for my patient will run longer than that. Is this acceptable?

There is no available literature to support infusing dexrazoxane over longer than the manufacturer recommended 15 minutes.[2] However, as newer IV pump programming does not allow infusion rates faster than 999 mL/hr, larger doses of dexrazoxane may not be able to be infused within this timeframe. In these special circumstances, BC Cancer best practice has been to administer dexrazoxane via intravenous infusion over ***15 – 30 minutes***.

5. It seems as though dexrazoxane is also stable in NS – can NS be substituted for Lactated Ringers Injection for further dilution of the reconstituted solution?

Dexrazoxane is stable in NS, however this was only recommended when it was reconstituted with 0.167M sodium lactate injection, the previously supplied diluent in ***Zinecard®*** packages.[3,4] The updated ***Zinecard®*** product monograph recommends a new reconstitution and dilution procedure to control final product pH and thus tolerability. It very clearly states that now *only* Sterile Water for Injection, USP, should be used for reconstitution.[2] Therefore, when using the current ***Zinecard®*** (Pfizer) brand, only Lactated Ringers Injection, USP, should be used as the final dilution solution to prepare the intravenous infusion bag.

References:

1. Jones, Robin L. Utility of Dexrazoxane for the Reduction of Anthracycline-Induced Cardiotoxicity. Expert Review of Cardiovascular Therapy 2008; 6 (10): 1311-1317.

2. Pfizer Canada Inc. Zinecard ® Product Monograph. Kirkland, Quebec: 30 March 2015.

3. IBM Micromedex® IV Compatibility (database on the internet). Dexrazoxane. Powered by Trissel's™ 2 Clinical Pharmaceutics Database (Parenteral Compatibility). Available at: www.micromedexsolutions.com. Accessed 28 October 2019.

4. Kotsianti, A; Pfizer Inc. Important Notice: Zinecard® (Dexrazoxane for Injection) Re-introduction and New Reconstitution/Dilution and Administration Instructions. [Internet]. ZINECARD Healthcare Provider Letter. 2011 Jun 07 [cited 2019 Oct 30]. [3 pages]. Available at: https://www.pfizer.com/files/products/hcp_zinecard.pdf

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