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Abstract:

The extravasation of chemotherapeutic agents is a challenge for oncologic care teams. The management of nonliposomal (conventional) anthracyclines is well established in clinical practice guidelines, including general measures and specific antidotes, such as dexrazoxane. However, there is little scientific evidence on the management of liposomal and pegylated liposomal anthracyclines. The aim of this paper was to review the scientific literature on the extravasation of liposomal and pegylated liposomal anthracyclines and determine the clinical impact of this type of extravasation, focusing on dexrazoxane. The literature was searched using two databases: PubMed and Embase. Three searches were conducted, using liposomal anthracycline extravasation, pegylated liposomal anthracycline extravasation, and liposomal doxorubicin extravasation as keywords, respectively. Seven articles fulfilled the study eligibility criteria and included seventeen cases in humans. Extravasation occurred with three drugs: liposomal doxorubicin in nine (53%) patients, liposomal daunorubicin in four (23.5%) patients, and pegylated liposomal doxorubicin in four (23.5%) patients. General measures for extravasations were applied in all patients, but only three patients received dexrazoxane. All cases were completely resolved at 2-3 months, except for one patient, in whom dexrazoxane was not used. In animals, dexrazoxane decreased both the frequency of wounds produced by pegylated liposomal doxorubicin and their extent. The pharmacokinetic profiles of liposomal and pegylated liposomal anthracyclines differ from those of conventional anthracyclines, modifying their effectiveness and safety. General measures may be inadequate to heal areas affected by extravasation, which may require the administration of dexrazoxane. However, each case should be evaluated individually for the administration of dexrazoxane in off-label use until scientific evidence is available on its effectiveness and safety as an antidote for these formulations of anthracyclines.

Reference:

Caballero Romero, Á., Delgado Ureña, M.T., Salmerón García, A., Megías Fernández, M.T., Librada Porriño-Bustamante, M. and Cabeza Barrera, J. (2018) Extravasation accidents with liposomal/liposomal pegylated anthracyclines treated with dexrazoxane: an overview and outcomes. *Anti-Cancer Drugs*. July 20th. .

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