Local toxicity of anthracycline extravasation

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DESCRIPTION

A woman diagnosed with breast cancer was previously treated with surgery and chemotherapy before being referred to us for radiotherapy. During planning radiotherapy, an incidental observation was made of a conspicuous discolouration over the dorsal aspect of the left hand (figure 1). On requesting further information, the patient recalled having experienced an incident where “a red coloured drug had leaked out of the vein during chemotherapy.”

With that information, it could be concurred that the patient had suffered an extravasation of an anthracycline agent such as doxorubicin or epirubicin which is an important part of chemotherapy for breast cancer.

Anthracycline extravasation is a serious event which is accompanied by a risk of irreversible tissue necrosis, the risk of which is estimated to be 25–50% if untreated. Urgent measures after extravasation include the immediate cessation of the intravenous line, estimation of an approximate amount of extravasated drug, application of cold compresses and hospitalisation of the patient for

close observation. The use of local measures such as topical dimethylsulfoxide, intralesional corticosteroid and hyaluronidase injections have not been supported by convincing clinical evidence.¹ Recent evidence points towards the efficacy of dexrazoxane, which when used systemically acts as an antidote to the local effects of extravasated anthracyclines.^{2 3}

The patient in the current discussion informed us as having been treated with the use of cold compresses and observation in the hospital for a week.

Learning points

- ▶ The use of anthracyclines must be accompanied by an enhanced vigilance against extravasation, which could cause serious risks of irreversible tissue damage which could include the risk of extremity damage in case of peripheral extravasation and the risk of mediastinitis in the case of central venous line extravasation.
- ▶ The systemic use of dexrazoxane could act as an antidote against the effects of extravasated anthracyclines.
- ▶ The prevention of extravasation is much easier than treating patients with established extravasation.
- ▶ Injections of anthracyclines should not be initiated unless the integrity of the intravenous line is unquestionable.

Figure 1 Discolouration owing to local tissue necrosis over the dorsal aspect of the left hand and forearm owing to an anthracycline extravasation event which had occurred a couple of months earlier.

Contributors SR recognised the case to be worthy of reporting. KCP provided the clinical photograph. NKP wrote up the initial version of the manuscript. Reference search and final version of the manuscript was prepared by SR and SKS.

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