

Delayed Management of Vinorelbine Extravasation Responsible of a Major Ulceration: A Case Report

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Abstract—Chemotherapy extravasation is an undesirable and accidental complication of chemotherapy administration [1] .

Vinca alkaloids are among the intravenous drugs with the highest destructive power that can lead to skin necrosis [2] .

This review highlight the importance of prevention and early management of this kind of situation .

Index Terms—venous extravasation , vinorelbine , ulceration

I. INTRODUCTION

Vinorelbine is a semi-synthetic vinca-alkaloid that binds to tubulin and prevents formation of the mitotic spindle , resulting in the arrest of tumor cells growth in the metaphase [2] .

It is approved in the treatment of many cancers notably non-small cell lung cancer, breast and ovarians and lymphoma .

The incidence of extravasation of chemo-agents in general is ranging from 0.01 and 6% in subjects receiving it , vinca-alkaloids are included in the group of agents with the highest destructive power[3] .

We report this case to show the importance of the prevention by knowing this possible administration side effect of chemo-drugs and the consequence of a delay management of it.

II. CASE REPORT

52 years old woman was treated with navelbine chemotherapy for metastatic breast cancer . After her third infusion cycle , she had an extravasation injury in her right arm above the elbow, the drug had been administered at the dose of 25mg/m².

Immediate symptoms were pain swelling and erythema .

Removal of the extravasated material was done and the right arm was elevated on pillow to improve venous drainage.

The lesion was flash out with 500 cc of normal saline flash out but without hyaluronidase infiltration.

It was then dressed with betadine soaked gauze.

After few days , the patient developed a major ulceration involving a big surface of the right arm but without signs of tendon involvement (figure 1).

The patient was immediately referred to the plastic surgeon .



Figure 1 : wide ulceration in the right arm with erythema around 3 weeks after the incident

III. DISCUSSION

Cancer patients are prone to extravasations , this is due to several risk factors , some related to the patient including small and / or fragile veins , lymphedema , obesity and some are related to the vesicant properties of the drug , its

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concentration, volume and duration in which the infusion extravasated [2].

Table 1

The different types of the above mentioned drugs according to their vesicant potential

Neutrals	Inflammitants	Irritants	Exfoliants (may have low vesicant potential)	Vesicants
Asparaginase	Bortezomib	Bendamustine	Aclacinomycin cisplatin	Actinomycin D
Bevacizumab bleomycin			Docetaxel liposomal	
Bortezomib cetuximab,			Doxorubicin	
Cyclophosphamide			mitoxantrone Oxaliplatin	
Cytarabine eribulin	5-Fluorouracil	Bleomycin	paclitaxel	Dactinomycin
Fludarabine gemcitabine	methotrexate			daunorubicin Doxorubicin
Ifosfamide	raltitrexed			epirubicin Idarubicin
				mitomycin C Vinblastine
				vindesine
Melphalan rituximab		Carboplatin		Vincristine vinorelbine
		dexasoxane		
Trastuzumab		Etoposide		
		Teniposide		
		Topotecan		

Figure 2: the vesicant potential of drugs used in chemotherapy [1]

Extravasation can accidentally occur upon puncturing of the vein or upon the movement of the cannula itself by insecure fixing or the movement of the patient.

In the literature, the clinical presentations of all extravasations are similar [4], but the evolution to ulceration and necrosis will depend on the amount of the vinorelbine that had extravasated and the time before the infusion was stopped.

In most situations, hyaluronidase injections have been used for limiting the spreading of the substance, indeed hyaluronidase degrades hyaluronic acid in the extra-cellular matrix, also an infiltration of saline dilutes and flushes out the extravasated material [5].

Our patient didn't benefit from hyaluronidase injections and even when the ulcerations appeared didn't come to the hospital to be taken in charge early which explained the extent and the severity of the breach.

IV. CONCLUSION

Safe administration of chemotherapy and prevention of the extravasation is a shared responsibility among the medical team in charge.

This case showed us that the education of the patients about this risk is important too and can contribute to minimize the damages.

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