When vesicant agents and vehicles have caused subclinical subcutaneous edema, clinical nurses may detect early slight extravasation by using ultrasonography” Murayama et al (2019).

Abstract:

Paclitaxel, a taxane, is frequently administered intravenously as an anticancer agent. When a peripheral intravenous catheter is used for paclitaxel infusion, clinical nurses often observe signs such as slight swelling at the catheter placement site, lack of blood return, and difficulty in continuing the infusion. However, the cause(s) of such phenomena at the puncture site has not yet been elucidated. The aim of this study was to obtain ultrasonography images of subcutaneous tissues and veins of patients undergoing paclitaxel and carboplatin chemotherapy and compare ultrasonography images taken immediately before catheter removal with those of patients receiving other types of taxanes. We studied 24 patients receiving chemotherapy, including seven receiving paclitaxel and carboplatin chemotherapy, through a peripheral intravenous catheter in a chemotherapy unit for outpatients of a university hospital in Japan. Ultrasonography images of venipuncture sites were obtained before catheter insertion and immediately before catheter removal. We observed subcutaneous edema in the absence of visible manifestations at the puncture sites of all patients undergoing paclitaxel and carboplatin chemotherapy, but not in any patients receiving other types of taxanes. When vesicant agents and vehicles have caused subclinical subcutaneous edema, clinical nurses may detect early slight extravasation by using ultrasonography.

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