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Bullous Cutaneous Eruption due to Extravasation of Acyclovir in an Adolescent with Acute Lymphoblastic Leukemia

Akut Lenfoblastik Lösemili Bir Adolesanda Asiklovirin Damar Dışına Sızmasına Bağlı Büllöz Cilt Erüpsiyonu

Abdurrahman Sarıca

Dr Abdurrahman Yurtaslan Oncology Education and Research Hospital, Ankara, Turkey

A 14-year-old-girl undergoing treatment with the BFM TRALL 2000 protocol (MRG) because of early pre-B-cell acute lymphoblastic leukemia (ALL) developed chicken pox on the 33rd d of remission induction. As such, chemotherapy was withdrawn and the patient was quarantined. Acyclovir (1500 $mg \cdot m^{-2} \cdot d^{-1}$ in three divided doses) was then administered in 100 mL of 0.9% sodium chloride, as 1-h intravenous infusions. On the 9th d of acyclovir therapy 10 min after infusion of the 27th dose started the patient complained of the sensation of minor pain and burning in the region of Intracath catheter insertion, and developed slight erythema with irregular boundaries in the same region.

The infusion line was checked for patency by gently withdrawing blood before, which showed that the line was patent, and then infusion was continued, but at a slower rate. The line's patency was checked frequently and remained patent. The patient no longer experienced the sensation of pain and burning, and the erythema improved slightly; however, at the end of the infusion (the 65th min) a solitary, bullous painless eruption 1 x 1 cm in diameter was observed on the tract of the vein, 10 cm distal of the Intracath insertion (Figures 1 and 2). Without any medical intervention the lesion subsided in 8 h and disappeared completely in 24 h, leaving behind a residual scar lesion.

The known adverse dermatological effects of acyclovir, including erythema, inflammation, and phlebitis at the site of intravenous infusion, occur in ≤16% of patients, presumably due to the alkaline nature of the solution (reconstituted acyclovir has a pH of 10-11) [1]. It is a known irritant to venous and soft tissue if extravasated [2].We think that both the erythema and bullous eruption in the presented case were signs of subcutaneous acyclovir extravasation, despite the fact that we frequently checked the line and were confident of its patency.

Frequent venipuncture of the same veins and use of chemotherapeutic agents in oncology patients may render their veins fragile and susceptible to the irritant effects of drugs. As such, sensation of pain and burning in oncology patients should be considered a reliable sign of extravasation even when good blood return is observed. Nonetheless, cutaneous vesicular eruption following intravenous acyclovir administration is rare [1]. It was reported that cutaneous vesicular eruptions developed not only at the site of injection, but far from it [3] and proximal to it [1]. Moreover, bullous eruptions were also reported following topical and oral acyclovir administration [1]; therefore, rather than extravasation of acyclovir solution, an immunoallergic pattern in the presence of histological leukocytoclastic vasculitis is an etiological consideration [3].

Address for Correspondence: Abdurrahman SARICA, M.D.,
S.B. Dr. Abdurrahman Yurtaslan Onkoloji Eğitim ve Araştırma Hastanesi, Demetevler, Yenimahalle, Ankara, Turkey
Phone: +90 312 336 09 09/70 42 E-mail: apocan1981@hotmail.com

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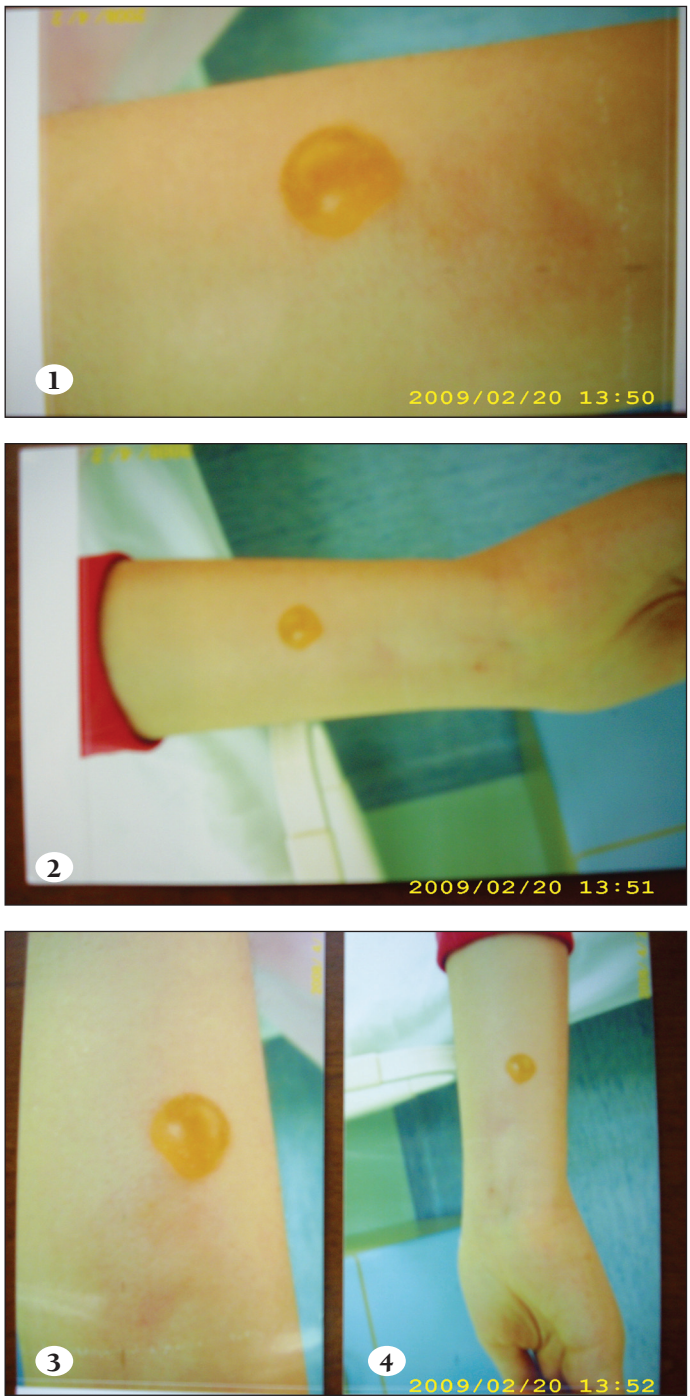

Figure 1-4: Cutaneous vesicular eruption on the forearm of the patient which developed after acyclovir injection.

The presented case shows that the irritant effects of acyclovir should always be a consideration, especially in oncology patients, and that the development of new vesicular eruptions during acyclovir therapy should not always be considered progression of herpes infection.

Conflict of Interest Statement

The authors of this paper have no conflicts of interest, including specific financial interests, relationships, and/or affiliations relevant to the subject matter or materials included.

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