Direct Healthcare Professional Communication

October 2026

Potential Risk of Extravasation During Intravenous Administration of Aciclovir

Dear Healthcare Professional,

[Marketing Authorization Holder (MAH Name)], in agreement with the Pharmaceutical Vigilance General Administration (PVGA) of the Egyptian Drug Authority (EDA), informs healthcare professionals of a potential safety signal of extravasation associated with intravenous (IV) aciclovir administration. This communication aims to raise awareness of the identified safety signal and provide recommendations to prevent, early recognize, and appropriately manage extravasation.

This communication is relevant to pediatricians, neonatologists, infectious disease specialists, neurologists, internal medicine physicians, intensive care specialists, hematologists/oncologists, transplant specialists, and other healthcare professionals involved in preparing and administering intravenous aciclovir.

Summary

After receiving multiple domestic reports of extravasation associated with intravenous (IV) aciclovir administration, the PVGA team reviewed 67 global cases reported across 15 countries. Of these, 50% of cases were classified as serious, and 40% showed a positive de-challenge, supporting a potential association.

Key findings:

- **High-Risk Groups**: Patients younger than 18 years accounted for 52.2% of cases. Infants, children, and older adults may be at increased risk of extravasation-related complications due to fragile or difficult-to-access veins.
- **Extravasation Risk**: Aciclovir is a non-cytotoxic agent that has vesicant-like effects upon extravasation. Its highly alkaline pH (approximately 11) and high osmolality (~278 mOsm/kg) may contribute to local tissue injury following extravasation, even in the absence of documented administration errors [1].

Recommendations for Healthcare Professionals

- Ensure appropriate venous access, catheter selection, and secure fixation before administration.
- Administer IV aciclovir according to the approved product information, including the recommended dilution and infusion rate (Avoid intravenous bolus administration).

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- Closely monitor the infusion site for pain, burning, redness, swelling, phlebitis, or other signs of extravasation.
- Stop the infusion immediately if extravasation is suspected.
- Follow extravasation management protocol.
- Report suspected cases of extravasation and associated tissue injury through the national pharmacovigilance reporting system.

Background

Aciclovir is an antiviral drug with an osmolality of approximately 278 mOsm/kg and a strongly alkaline pH (~11) that specifically inhibits herpesvirus DNA polymerase. It shows good in vitro activity against herpes simplex and varicella-zoster viruses. The drug may be administered topically to the skin, intravenously, orally, or topically to the eye. Aciclovir is a selective antiviral that is preferentially phosphorylated in virus-infected cells to its active triphosphate form, which inhibits viral DNA polymerase and can cause premature viral DNA chain termination. It can be used as preventive treatment against viral infections after solid organ or hematopoietic stem cell transplantation, as immunocompromised patients are at risk of viral infections [2].

Extravasation is the leakage of an intravenously administered medicine into surrounding tissues, potentially causing local tissue injury. Extravasation of non-cytotoxic intravenous drugs (NCID) is a complication of intravenous administration through central and peripheral venous catheters. Physicochemical causes of tissue injury include vasoconstriction and pH-mediated, osmolar-mediated, and cytotoxic mechanisms of extravasation injury. Acidic agents, such as promethazine, amiodarone, and vancomycin, may cause edema, sloughing, and necrosis secondary to cellular desiccation. Alternatively, basic agents, such as phenytoin and aciclovir, may be more caustic because dissociated hydroxide ions penetrate deeper into tissue [3].

Risk factors for extravasation include:

- **Patient-related:** small or fragile veins, particularly in infants, children, and elderly patients, and patients with malignancies or fragile vessels.
- **Procedure-related:** inexperienced personnel, multiple cannulation attempts, and excessive infusion pressure.
- **Equipment-related:** inappropriate catheter selection or size, inadequate dressing, and poor catheter fixation [4].

References

1- https://pubmed.ncbi.nlm.nih.gov/40688854/
2- https://go.drugbank.com/drugs/DB00787
3- https://pmc.ncbi.nlm.nih.gov/articles/PMC7431942/

Call for reporting

Healthcare professionals are asked to report any suspected adverse reactions via the Egyptian reporting system:

Name: Pharmaceutical Vigilance General Administration

Address: 21 Abd El Aziz Al Soud Street, El-Manial, Cairo, Egypt,

Email: pv.followup@edaegypt.gov.eg
Online reporting: https://vigiflow-eforms.who-umc.org/eg/med
QR Code:

Hotline: 15301