Research Letter

Acyclovir-induced nephrotoxicity in a pregnant woman with chickenpox

Yen-Hou Chang a, b, Jen-Yu Tsenga, b, Chih-Yao Chena, b, Pi-Lin Sung a, b, Chang-Ching Yeh a, b, Ming-Jie Yang a, b, *

a Department of Obstetrics and Gynecology, National Yang-Ming University, School of Medicine, Taipei, Taiwan
b Department of Obstetrics and Gynecology, Taipei Veterans General Hospital, Taipei, Taiwan

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Dear Editor,

Acyclovir is a commonly used antiviral agent for the treatment of herpes simplex and herpes zoster infection. According to the Food and Drug Administration, it is classified as a category B drug and is safe for use during pregnancy [1]. Adverse effects of acyclovir include mild symptoms, such as nausea, vomiting, and diarrhea, to more severe symptoms, including neutropenia, hepatitis, and Stevens–Johnson syndrome [2]. Reversible nephrotoxicity can be diagnosed in approximately 5–10% of patients undergoing intravenous (IV) administration. The precipitation of acyclovir crystals results in kidney damage and a rapid rise in serum creatinine [3,4]. However, drug-associated complications during pregnancy have not been documented.

A 33-year-old pregnant woman, G2P1, at 31 weeks’ gestation presented at the outpatient department with a 2-day history of generalized tiny vesicles on the erythematous base over her trunk and genital area. She was previously started on oral acyclovir (800 mg 4 times daily) under the impression of chickenpox by a dermatologist. Additionally, she reported abdominal tightness, poor intake, and general weakness. Fetal nonstress test showed uterine contractions. The patient was admitted for management of preterm labor in association with chickenpox. Upon admission, her blood pressure was 118/67 mmHg, dipstick test of urinalysis showed trace proteins, and laboratory data showed elevation of serum creatinine (0.72 mg/dL) was still noted. Due to the possible in

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infusion, concurrent acute kidney injury before medication administration, and concomitant use of other nephrotoxic agents. Early and immediate detection is necessary to prevent morbidity. Monitoring renal function in hospitalized patients using acyclovir for longer than 48 hours is strongly suggested. The possibility for chronic kidney injury is a strong concern if renal insufficiency is not rapidly corrected [7]. Treatment of acyclovir nephrotoxicity is supportive, with discontinuation or reduction of the drug in addition to maintaining a high urinary flow rate (>150 cc/h) with IV fluids and furosemide [5]. In patients that develop severe renal failure or those who do not respond to treatment, hemodialysis is an option for removal of the offending drug and to support renal function [6]. The risk of acyclovir-induced nephrotoxicity can be minimized with empiric IV fluids to establish euvoolemia before drug administration in order to avoid rapid infusion of the drug (infuse slowly over 1–2 hours), with dosage adjustment according to renal function if necessary [7].

Considering the fact that the patient was pregnant at 32 weeks with preterm labor and deteriorating renal function, early delivery was a reasonable alternative to rapidly correct her underlying problems. In conclusion, acyclovir is not uncommonly used in pregnancy; therefore, clinicians should be alerted to avoid failure of early detection of nephrotoxicity.

**Conflicts of interest**

The authors have no conflicts of interest relevant to this article.

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**References**


