A Case of Valacyclovir Associated Neurotoxicity in a Patient with End Stage Renal Disease

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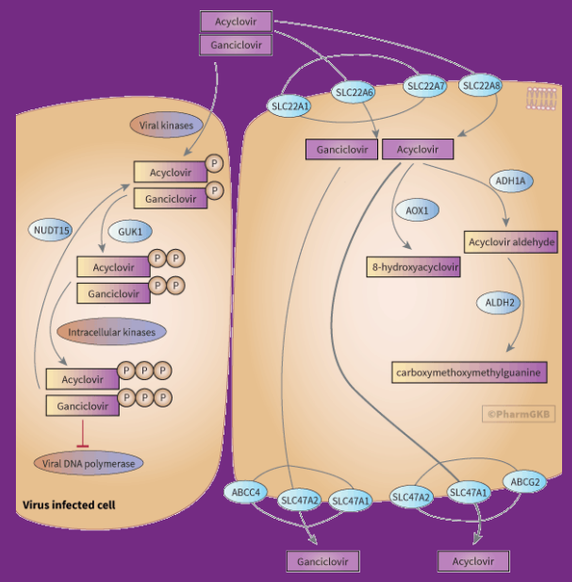
INTRODUCTION

- While valacyclovir is a commonly used antiviral with a good safety profile, it is rarely known to cause systemic adverse effects including neurotoxicity, especially with increasing **age** and **renal impairment**.
- Here we describe a case of valacyclovir associated neurotoxicity (VAN) in a patient with end stage renal disease (ESRD) and discuss its implications.

CASE DESCRIPTION

- 57-year-old female with history of ESRD on peritoneal dialysis (PD) presented with confusion, tremors, hallucinations, and ambulatory dysfunction.
- Her symptoms began 2 days ago, within 2 hours of taking valacyclovir 500 mg orally, during a recent ER visit for shingles.
- She was unable to perform PD at home the next day, following which her symptoms worsened. During current presentation, vitals were stable and labs revealed elevated creatinine (15.6 mg/dl) and BUN (55 mg/dl).
- Physical examination was remarkable for altered mentation, general tremulousness, and right upper back vesicular zoster lesions.
- No signs of meningitis or focal deficits were observed.
- Brain CT and MRI were unremarkable.
- Electroencephalogram showed mild diffuse background slowing without focal epileptiform activities.

Valacyclovir is rapidly & nearly completely converted to acyclovir by intestinal and hepatic metabolism.



RENAL IMPAIRMENT CrCl (ml/min)	Valacyclovir	IV Acyclovir	Oral Acyclovir
>50	1 g/8 h	5-15 mg/kg/ 8 h	200-800 mg/ 5 times a day
25-50	1 g/12 h	5-10 mg/kg/ 12 h	200-800 mg/ 5 times a day
10-25	1 g/24 h	5-10 mg/kg/ 24 h	800 mg/8 h
<10	500 mg/24 h	2.5-5 mg/ kg/24 h	800 mg/12 h
Dialysis	500 mg/24 h, after dialysis session	5 mg/kg/ 24 h	400-800 mg/ 24 h

- Valacyclovir was discontinued, and she received renally dosed gabapentin for neuropathic pain.
- Intensified peritoneal dialysis was initiated, following which her symptoms began improving within 24 hours.

DISCUSSION

- A recent study by Brandariz-Nuñez D et al describes 119 cases of valacyclovir and acyclovir associated neurotoxicity.
- ESRD was observed in 57.1% of the patients and almost 60% received a dose higher than the recommended renal adjustment.
- **Despite receiving the appropriate renally adjusted dose** of valacyclovir (500 mg daily), our patient developed VAN.
- Of note, varicella zoster **encephalitis as the cause of altered sensorium needs to be ruled out** in such patients.

CONCLUSION

- It is imperative for clinicians to be aware of VAN and the need to renally dose valacyclovir in ESRD patients.
- VAN can be managed by prompt discontinuation of valacyclovir and dialysis if required.

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