Acyclovir Versus Valacyclovir for the Herpes Virus in Children and Pregnant Women: A Review

Context
Varicella (chickenpox) and herpes zoster (shingles) are caused by the varicella-zoster virus, a type of herpes virus. Genital herpes is caused by the herpes simplex virus type 1 or type 2. Most cases of chickenpox occur in children aged 14 years or younger, whereas shingles are most common in adults older than 50 years of age. Chickenpox in the general adult population is uncommon; however, chickenpox in pregnant women is of concern because they are at a higher risk of complications such as varicella pneumonia, which has an estimated mortality rate of 20% to 45% in the absence of antiviral drug treatment. For pregnant women with genital herpes, there is a risk of transferring the virus to the baby.

Technology
Acyclovir and valacyclovir are antiviral drugs used to treat herpes simplex virus types 1 and 2 and the varicella-zoster virus. There is no evidence that either drug causes major birth defects if they are taken by pregnant women; however, the product monographs for both acyclovir and valacyclovir list pregnancy as a warning or precaution. Although acyclovir has traditionally been the drug of choice in both pregnancy and pediatrics, valacyclovir may be an appealing alternative because its lower dosing frequency may lead to increased compliance.

Issue
A review of the clinical effectiveness of acyclovir compared with valacyclovir for the treatment of chickenpox in children; chickenpox, herpes zoster infection, and herpes simplex virus in pregnant women; and of the related guidelines will help inform treatment decisions for these patients.

Methods
A limited literature search was conducted of key resources, and titles and abstracts of the retrieved publications were reviewed. Full-text publications were evaluated for final article selection according to predetermined selection criteria (population, intervention, comparator, outcomes, and study designs).

Key Messages
For the treatment of chickenpox in children:
- acyclovir was shown to be effective
- no evidence on the effectiveness of valacyclovir was found.

In pregnant women:
- both acyclovir and valacyclovir appear to be effective for the treatment of recurrent genital herpes
- both acyclovir and valacyclovir appear to be safe; however, there is substantially more experience with acyclovir
- no evidence was found on the effectiveness of acyclovir compared with valacyclovir for the treatment of herpes zoster infection
- no evidence was found on the effectiveness of acyclovir compared with valacyclovir for the treatment of chickenpox
- guidelines on the treatment of chickenpox and genital herpes recommend acyclovir in certain situations, and several suggest valacyclovir as another option.

Results
The literature search identified 371 citations, with 12 additional studies identified from other sources. Of these, 20 were deemed potentially relevant and 11 met the criteria for inclusion in this review: 2 systematic reviews, 1 cohort study, and 8 guidelines.