PEP Algorithm of VZV in Pregnancy

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References:

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Contact withVZV is common in pregnancy although primary infection in pregnancy is uncommon; it is estimated to complicate 3 in every 1000 pregnancies.

At booking women should be asked about past history of chickenpox or shingles.

But this is not tested for routinely.

Known sero-negative women should avoid contact with chickenpox or shingles.

Can varicella infection be prevented in the pregnant woman who gives a history of contact with chickenpox or shingles?

Definition of a significant exposure to varicella-zoster virus (VZV)

Three aspects of exposure to VZV during the infectious period are relevant when considering the need for post-exposure prophylaxis (PEP) for a susceptible high risk individual:

a) Type of VZV infection in index case

1- Disseminated shingles

2- Immunocompetent individuals with exposed shingles lesions (for example ; ophthalmic shingles)

3- Immunosuppressed individuals with localised shingles on any part of the body in whom viral shedding may be greater

The risk of acquiring infection from contact with an immunocompetent individual with non-exposed shingles lesions (for example, thoraco-lumbar) is remote and therefore is not an indication for PEP.

b) Timing of the exposure

1- where there is **continuous exposure** to a case of chickenpox or shingles :

household member, nursery or care worker

2- where there has been **more than one exposure** to a case of chickenpox or shingles

3- where there has been a single exposure to an immunocompetent case of chickenpox during the infectious period from 24 hours before onset of rash until 5 days after rash appearance or an immunosupressed index case until all lesions have crusted over

4- where there has been a single exposure to a case of shingles during the infectious period from onset of rash until the lesions have crusted over (in immunocompetent individuals, this is usually 5 days after rash appearance)

c) Closeness and duration of contact

1- Those in the same small room (for example in a house or classroom or a 2 to 4 bed hospital bay) for a significant period of time (15 minutes or more)

2- Face to face contact, for example while having a conversation

3- Immunosuppressed contacts on large open wards, where air-borne transmission at a distance has occasionally been reported, particularly in pediatric wards where the degree of contact may be difficult to define

Assessment of susceptibility

1- For immunocompetent individuals including pregnant individuals, a history of previous chickenpox,shingles or 2 doses of varicella vaccine is sufficient evidence of immunity.

In those without such a history: antibody testing can help to identify those individuals that would benefit from VZV PEP.

Where testing is undertaken, antiviral PEP is recommended if VZV IgG is less than 100(mIU/ml).

2- For immunosuppressed patients, a history of previous infection or vaccination is not a reliable history of immunity and VZV antibody levels should be checked urgently.

Individuals with VZV antibody levels of 150 mIU/ml or greater are unlikely to benefit from PEP and therefore individuals with VZV IgG less than 150 mIU/ml in a quantitative assay, or negative or equivocal in a qualitative assay should be offered treatment.

For pregnants without a history of chickenpox or VZV vaccination

If available :Serological testing within the first two days post-exposure is essential to assess immunity.

If the patient is found to be susceptible, administration of

VariZIG is advised within 72–96 h, with

efficacy extending up to 10 days post-exposure .

VariZIG dose:125 IU/10 kg BW, max:625 IU :5 Vial

Non-immune pregnant women who have been exposed to chickenpox should be managed as potentially infectious from 8–28 days after exposure if they receive VariZIG and from 8–21 days after exposure if they do not receive VariZIG.

Aciclovir use for PEP of chickenpox is currently an off-label indication,

However, its use is recommended and use in treatment of chickenpox is well established. (UKHSA, 2024)

Previously concerns have been raised about using antivirals in the early stages of pregnancy but neither US nor Danish studies (1200 and 1800 exposures respectively) found an increase in major congenital malformations following exposure to antiviral agents in pregnancy.

https://uktis.org/monographs/use-of-aciclovir-in-pregnancy/

Aciclovir (Iran!!!)

1- If the woman is not immune to VZV and has had significant exposure, she should be offered Aciclovir for 7days to start from day 7 post exposure.

Aciclovir:

2- If there is a second or subsequent exposure to chickenpox or shingles within the first 7 days of treatment, the course of antivirals may need to be extended until 14 days after the first day of exposure.

3- If the subsequent exposure occurs 8 or more days are the first exposure, then a new course of antivirals should be started.

Algorithm for the PEP Management of VZV in Pregnancy

Women exposed to Chickenpox or Shingles should contact their HCP or Gynecologist

HCP or Gynecologist to take careful history

A

Certain previous history

Reassure

B

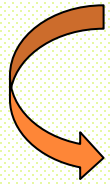
If woman develops rash, contact her Gynecologist, as soon as possible.

Women should avoid contact with susceptible individuals

Oral acyclovir 800mg FIVE times daily for 7 days should be given within 24 hours of the appearance of rash.

woman with severe chickenpox should be referred immediately to Hospital

Algorithm for the PEP Management of VZV in Pregnancy



C

If uncertain, or no previous history

Request blood test to determine VZV immunity if possible

If not immune:VZV Ab < 100 IU/ml
72-96 h post exposure: max efficacy.
until 10 d.
VariZIG 125 IU/10kg BW/ Max: 625 IU/ 5 Vial

IF VariZIG NOT available :
oral acyclovir on day 7 after exposure 800 mg 5/d for 7 d.

VZV Ab ≥ 100 IU/ml
She is **immune**!
Nothing

Many Thanks!!