

Varicella / Chickenpox

2024 Case Definition

CSTE Position Statement(s)

23-ID-09

Clinical Criteria

In the absence of a more likely alternative diagnosis:

- An acute illness with a generalized rash with vesicles (maculopapulovesicular rash),

OR

- An acute illness with a generalized rash without vesicles (maculopapular rash).

Laboratory Criteria ^{*a}

Confirmatory Laboratory Evidence:

- Positive polymerase chain reaction (PCR) for varicella-zoster virus (VZV) DNA, ^{b,c}

OR

- Positive direct fluorescent antibody (DFA) for VZV DNA,

OR

- Isolation of VZV,

OR

- Significant rise (i.e., at least a 4-fold rise or seroconversion^d) in paired acute and convalescent serum VZV immunoglobulin G (IgG) antibody. ^{c,e}

Supportive Laboratory Evidence: Positive test for serum VZV immunoglobulin M (IgM) antibody. ^{c,f}

* Note: The categorical labels used here to stratify laboratory evidence are intended to support the standardization of case classifications for public health surveillance. The categorical labels should not be used to interpret the utility or validity of any laboratory test methodology.

^a A negative laboratory result in a person with a generalized rash with vesicles does not rule out varicella as a diagnosis.

^b PCR of scabs or vesicular fluid is the preferred method for laboratory confirmation of varicella. In the absence of vesicles or scabs, scrapings of maculopapular lesions can be collected for testing.

^c Not explained by varicella vaccination during the previous 6–45 days.

^d Seroconversion is defined as a negative serum VZV IgG followed by a positive serum VZV IgG.

^e In vaccinated persons, a 4-fold rise may not occur.

^f IgM serology has limited value as a diagnostic method for VZV infection and is not recommended for laboratory confirmation of varicella. However, an IgM positive result in the presence of varicella-like symptoms can indicate a likely acute VZV infection. A positive IgM result in the absence of clinical disease is not considered indicative of active varicella.

Epidemiologic Linkage Criteria

Confirmatory Epidemiologic Linkage Evidence:

- Exposure to or contact with a laboratory-confirmed varicella case,

OR

- Can be linked to a varicella outbreak containing ≥ 1 laboratory-confirmed case,

OR

- Exposure to or contact with a person with herpes zoster (regardless of laboratory confirmation).

Presumptive Epidemiologic Linkage Evidence:

- Exposure to or contact with a probable varicella case that had a generalized rash with vesicles.

Healthcare Record Criteria

- Provider diagnosis of varicella or chickenpox but no rash description.

Case Classification

Confirmed:

- Meets clinical evidence **AND** confirmatory laboratory evidence,

OR

- Meets clinical evidence with a generalized rash with vesicles **AND** confirmatory epidemiologic linkage evidence.

Probable:

- Meets clinical evidence with a generalized rash with vesicles,

OR

- Meets clinical evidence with a generalized rash without vesicles **AND**:
 - Confirmatory or presumptive epidemiologic linkage evidence, **OR**
 - Supportive laboratory evidence.

OR

- Meets healthcare record criteria **AND**:
 - Confirmatory or presumptive epidemiologic linkage evidence, **OR**
 - Confirmatory or supportive laboratory evidence

Varicella Death Classifications

Confirmed: A death resulting from a confirmed case of varicella which contributes directly or indirectly to acute medical complications that result in death.

Probable: A death resulting from a probable case of varicella which contributes directly or indirectly to acute medical complications that result in death.

Comments

Varicella-like rash in vaccine recipients: A varicella-like rash in a recently vaccinated person may be caused by either wild- or vaccine-type virus or have other etiologies. Approximately 4%–6% of 1-dose and 1% of 2-dose vaccine recipients, respectively, develop a generalized rash with a median of 5 lesions 5–26 days postvaccination, and 1%–3% develop a localized rash at the injection site with a median of 2 lesions 8–19 days postvaccination.[\[32\]](#) The rash may be atypical in appearance (maculopapular with no vesicles). Attribution of disease to vaccine strain VZV can be done by distinguishing wild-type VZV from vaccine-strain VZV using strain differential PCR.

Breakthrough disease is a case of infection with wild-type VZV occurring more than 42 days after vaccination. Disease is usually mild with a shorter duration of illness, fewer constitutional symptoms, and generally fewer than 50 skin lesions. Breakthrough cases with fewer than 50 lesions have been found to be one-third as contagious as varicella in unvaccinated persons, but breakthrough cases with 50 or more lesions are as contagious as cases in unvaccinated persons.