COMPLICATIONS OF PRIMARY VARICELLA ZOSTER VIRUS IN ADULTS

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INTRODUCTION:

Varicella-zoster virus (VZV) presents in two forms, primary infection (chicken pox) and zoster (shingles). Most primary infections occur during childhood and are self-limited. In adults, most primary infections occur in immunocompromised individuals, who are at higher risk of complications. [1,2] Primary infection in an immunocompetent adult is rare. We present the case of a previously healthy man presenting with diffuse rash who was found to have primary VZV.

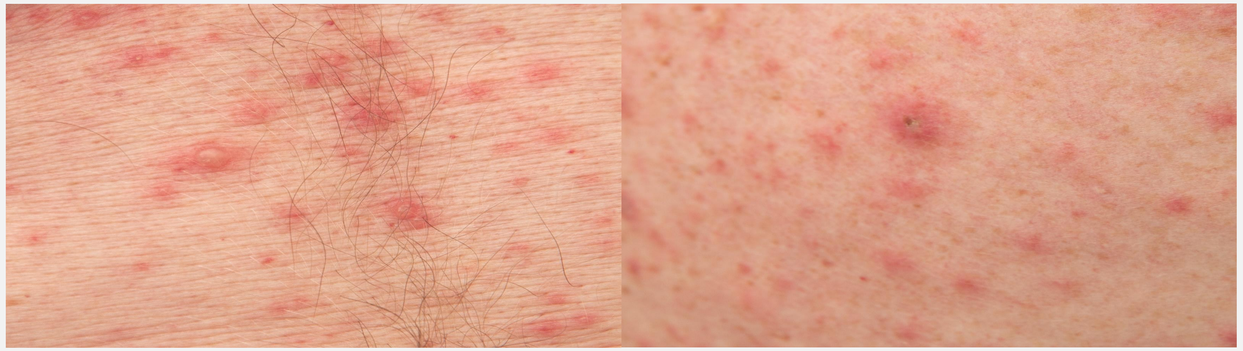

IMAGE 1: Vesicles in various stages of healing

Test	Result	Test	Result
VZV IgM/IgG Day #1	Negative	Rubella	Negative
VZV DNA PCR	Positive	Rubeola	Negative
VZV IgM/IgG Day #5	Positive	Mumps	Negative
HSV I/II	Negative	HTLV-I/II	Negative
HSV DNA PCR	Negative	Hepatitis A	Negative
HIV I/II	Negative	Hepatitis B	Negative
Syphilis	Negative	Hepatitis C	Negative

TABLE 1: Serologic testing results

REFERENCES:
1. Gnann, J.W. Varicella-Zoster Virus: Atypical Presentations and Unusual Complications. The Journal of Infectious Disease. 2002; 186 (suppl 1): S91-98.
2. Kasper, D.L. and Harrison, T.R. n(2015). Harrison's principles of internal medicine. New York: McGraw-Hill, medical pub. Division.
3. Wallace, M.R. Reliability of a History of Previous Varicella Infection in Adults. JAMA. 1997; 278(18): 1520-1522.
4. Weber, D.M. and Pellecchia, J.A. Varicella Pneumonia: study of prevalence in adult men. JAMA. 1965; 192: 572.
5. Anderson, D.R. et al. Report of a Case, Autopsy and Review of the Literature. Arch Intern Med. 1994; 154: 2101-2106.
6. Roque-Afonso, A. et al. Chickenpox-Associated Fulminate Hepatitis that Led to Liver Transplantation in a 63-year old woman. Liver Transplantation. 2008; 14: 1309-1312.

CASE PRESENTATION:

A 53-year old man with history of reflux presented with four days of progressive cephalocaudal rash, fever, chills, night sweats, headache, malaise, and oral lesions. He reported a history of high risk sexual behavior, as well as prior infection with chicken pox . He denied any pulmonary complaints.

PHYSICAL EXAM:
- Skin: diffuse vesicular macular rash in various stages of healing (image 1), sparing the palms and soles
- HEENT: white plaque like lesion to left mandibular area
- Chest: CTAB, no wheezes or rales
- Extremities: splinter hemorrhage left 2nd finger, osler node right 3rd finger.

LABS:
- lymphocytic leukopenia
- thrombocytopenia
- mild hepatitis
- Serologic testing (table 1)
- Blood cultures on two separate days
    - Streptococcus mitis/oralis
    - Streptococcus mutans

IMAGING/PROCEDURES:
- CXR: unremarkable
- CT chest w/ contrast: bilateral pulmonary basilar centrilobular nodularities suggestive of small airway inflammation suggestive of pneumonitis.
- Transthoracic echocardiogram (TTE) revealed independently mobile, linear echogenicity on the medial aspect of the anterior mitral valve leaflet concerning for vegetation versus ruptured chordae
- Transesophageal echocardiogram (TEE) five days later revealed no mitral valve lesion.

He completed a 14-day course of acyclovir for disseminated VZV and treated for endocarditis with ceftriaxone.

DISCUSSION:

This patient had primary ZVZ complicated by hepatitis, asymptomatic pneumonitis and bacterial endocarditis from an oral lesion. This was initially felt to be disseminated VZV in the setting of immunocompromise (HIV) due to his history of high risk sexual behavior. It is important to screen for underlying immunosuppression in the setting for concern of disseminated VZV.

Additionally, this patient reported having had chicken pox as a child, though through serologic testing it was revealed that this represented a primary infection. It is not uncommon for persons to misremember having chicken pox in childhood and should not exclude them from further serologic testing as up to 11% of persons may misreport having had chicken pox.[3]

This patient had evidence of possible pneumonitis on imaging despite lack of respiratory symptoms, up to one third of patients with primary VZV pneumonitis will not have pulmonary symptoms.[4] Acute hepatitis from VZV causing liver failure has been reported,[5,6] fortunately this patients liver function tests improved with treatment. Development of complications, while more common in immunocompromised adults, can be seen in immunocompetent adults.