

# Varicella zoster meningitis: A rare case of disseminated reactivation

PAUL FRANCOIS MD, LAURA SORABELLA MD, KAITLYN BRENNAN DO, MPH

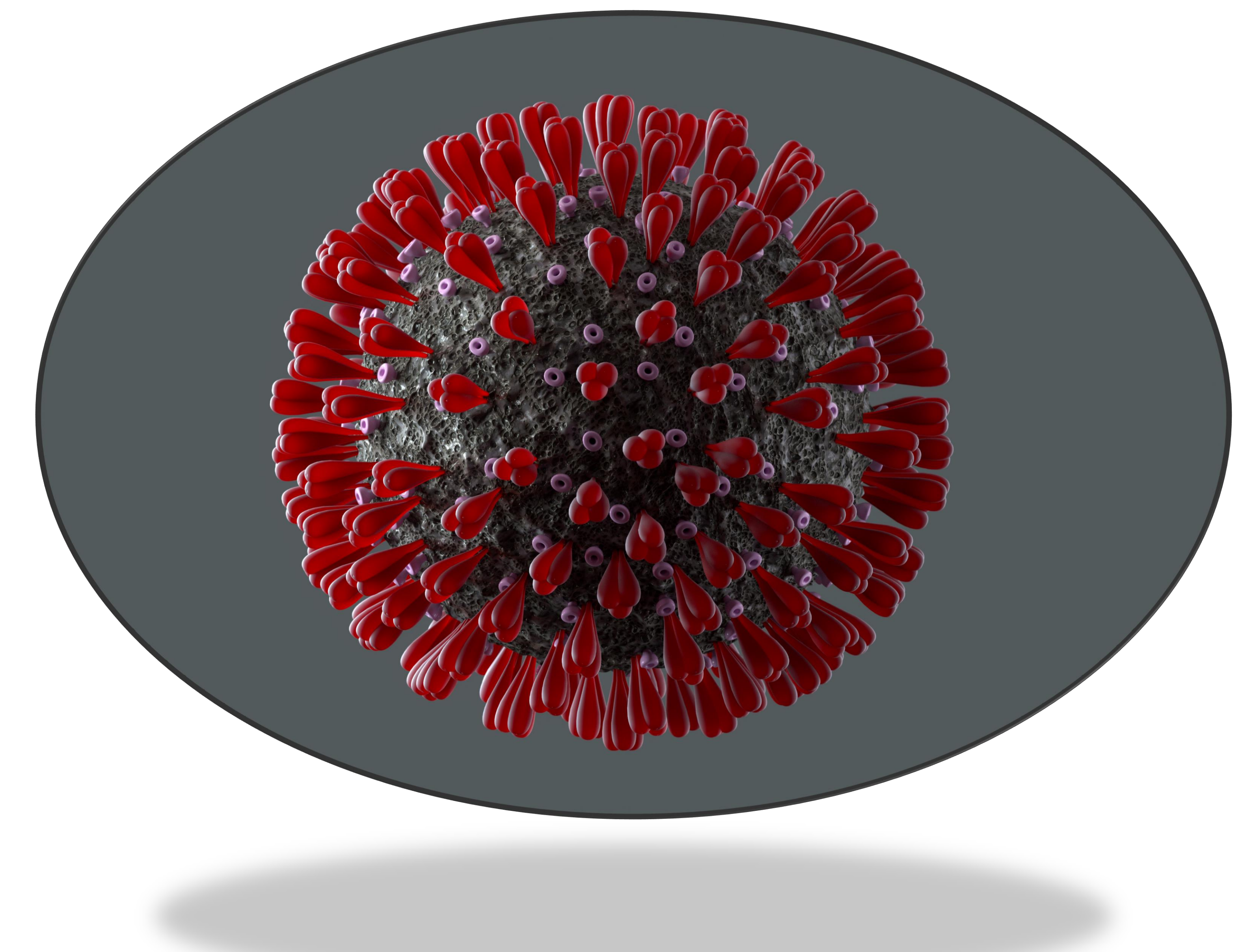
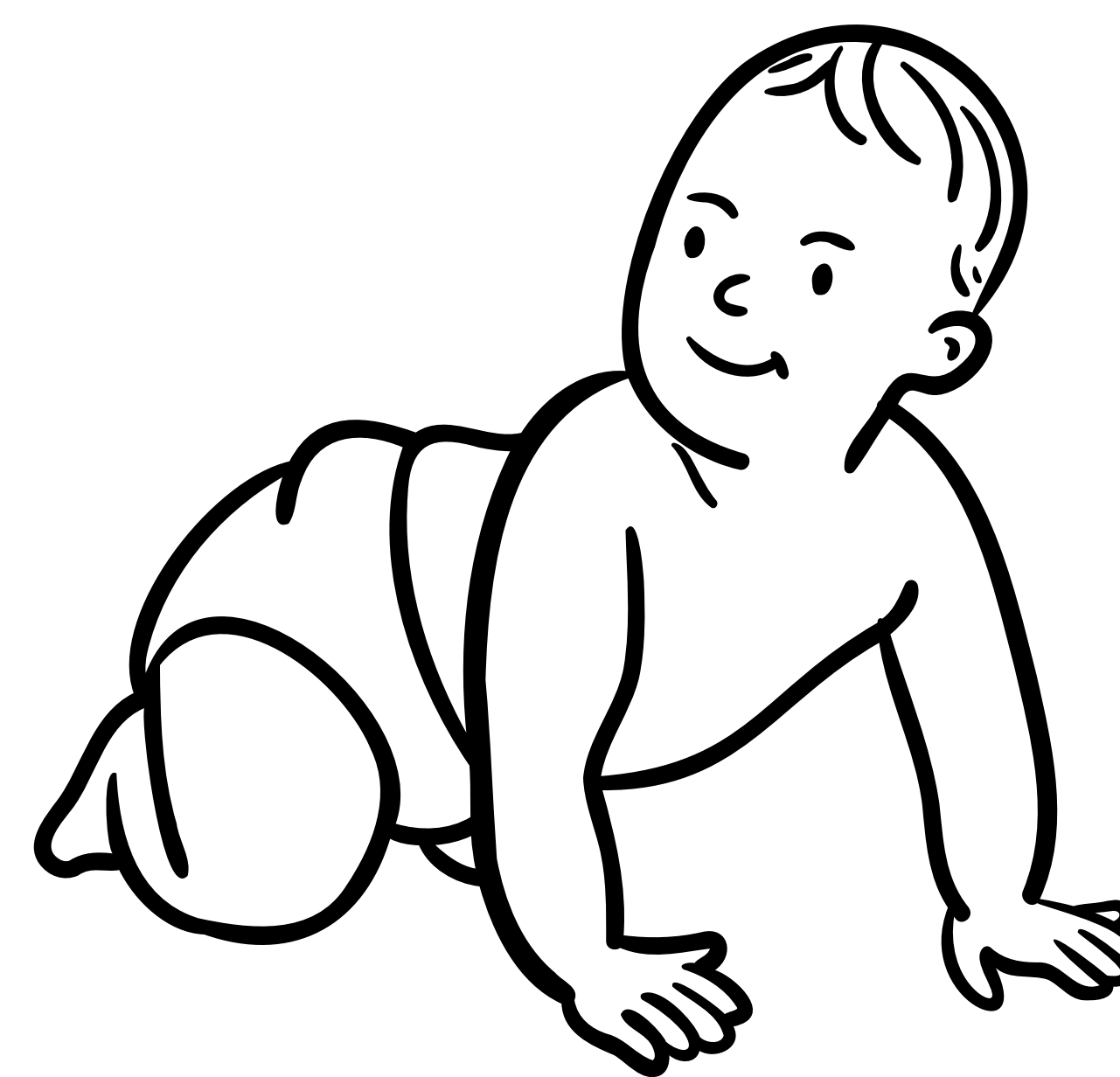
DEPARTMENT OF ANESTHESIOLOGY

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## Background

- VZV primary infection or reactivation can lead to more severe sequelae in the pregnant population. A pregnant mother is at the highest risk for a VZV complication during the third trimester.
- Patient with disseminated VZV infection, including those with VZV meningitis, should be closely followed for pneumonia symptoms, as this is associated with high mortality in pregnancy.
- Vertical transmission rate of VZV is estimated to be <2 % and is often associated with a primary infection. There is no significant data to show an association with reactivation of VZV and vertical transmission.





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## Case Report

34-year-old G4P3003 with no PMHx presented at 22w1d following 2 weeks of fatigue associated with pruritic and painful skin lesions.

### Physical Exam

T: 97.6 F - BP: 105/63 (MAP 75) - HR: 58- RR: 18- SpO2: 100%

Patient reported headache, photophobia, and neck rigidity. Small vesicular and crusted lesion on erythematous base noted on right buttock with radiation to her medial thigh.



Image 1: Vesicular lesions found on the patient

### Laboratory Evaluation

BMP				CBC		
136	109	8	8.6	11.3		
3.4	20	0.60; 0.60	84	8.8	><	173
				33		

		CSF STUDIES
Tube 1	08/22/24	Tube Number CSF
Colorless Cl...	08/22/24	Gross Appearance CSF
178 ▲	08/22/24	Nucleated Cells CSF
0	08/22/24	RBC Count CSF
100	08/22/24	Total Cells CSF
48	08/22/24	Neutrophil CSF
33	08/22/24	Lymphocyte CSF
12	08/22/24	Monocyte/Macrophage CSF
3	08/22/24	Eosinophil CSF
4	08/22/24	Atypical cell CSF
See Diff Below	08/22/24	Manual Diff CSF
Atypical I...	08/22/24	Comment CSF
44 ▼	08/22/24	Glucose CSF
71 ▲	08/22/24	Protein CSF

Results of CSF studies obtained by obstetric anesthesia team.

### Management

- Following confirmatory CSF studies patient was started on IV acyclovir for 14 days. Patient remained inpatient for 9 days for electrolyte repletion and symptom management. Patient was subsequently discharged with PICC for continued antibiotic administration.
- Ultimately patient had quick resolution of symptoms following acyclovir and delivered a healthy boy at 39w1d using nitrous oxide for labor analgesia.



Image 2: Vesicular lesions following treatment with acyclovir



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## Case Points

- Prior to 24 weeks, VZV vertical transmission has been detected clinically/serologically in neonates at varying rates.
- Some studies have transmission linked at 8% of virologically confirmed maternal VZV<sup>3</sup>.
- Intrauterine growth restriction was found in up to 23 % of cases with low birth weight being universal<sup>3,1</sup>.
- One case control study showed a statistically significant risk of preterm birth rate of 5.6%, compared with 14.3% for women with chickenpox in pregnancy<sup>3,1</sup>.
- Timely diagnosis and appropriate antiviral therapy are crucial to maternal and fetal outcomes.



References:

1. Ray, B., Singhal, D., Kumar, A., Borle, A., & Baidya, D. (2012). Anesthesia for cesarean section in a parturient with acute varicella: Is general anesthesia better than neuraxial anesthesia?. *Journal of Obstetric Anaesthesia and Critical Care*, 2(2), 105. [https://link-gale-com.proxy.library.vanderbilt.edu/apps/doc/A313201521/AONE?u=tel\\_a\\_vanderbilt&sid=bookmark-AONE&xid=44a83e0f](https://link-gale-com.proxy.library.vanderbilt.edu/apps/doc/A313201521/AONE?u=tel_a_vanderbilt&sid=bookmark-AONE&xid=44a83e0f)
2. Mourad, M., Gershon, M., Mehta, S. K., Crucian, B. E., Hubbard, N., Zhang, J., & Gershon, A. (2022). Silent Reactivation of Varicella Zoster Virus in Pregnancy: Implications for Maintenance of Immunity to Varicella. *Viruses*, 14(7). <http://dx.doi.org.proxy.library.vanderbilt.edu/10.3390/v14071438>
3. Janardhan, A. L., Gupta, N., Prakash, S., & Gogna, R. L. (2016). Anesthetic management of a parturient with varicella presenting for cesarean delivery. *International Journal of Obstetric Anesthesia*, 28, 92–94. <https://doi.org/10.1016/j.ijoa.2016.06.002>
4. Lamont, R.F., Sobel, J.D., Carrington, D., Mazaki-Tovi, S., Kusanovic, J.P., Vaisbuch, E. and Romero, R. (2011), Varicella-zoster virus (chickenpox) infection in pregnancy. *BJOG: An International Journal of Obstetrics & Gynaecology*, 118: 1155-1162. <https://doi-org.proxy.library.vanderbilt.edu/10.1111/j.1471-0528.2011.02983.x>