

Neuraxial Anesthesia in Parturients With Syphilis: Safety and Short-Term Outcomes

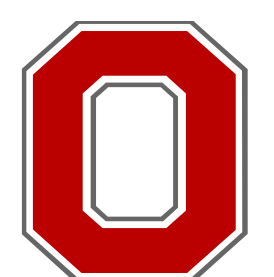
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Rising incidence: syphilis in pregnancy increasing in the U.S.; Franklin County, OH prevalence 47.2 per 100,000 (CDC 2023)

Pathophysiology: *Treponema pallidum* with early hematogenous/CSF dissemination; neurosyphilis can occur at any stage

Clinical relevance: concern for neuraxial space inoculation with active infection - no clear guidelines

Study aim: evaluate anesthetic management and short-term neurologic outcomes of neuraxial anesthesia in parturients with syphilis

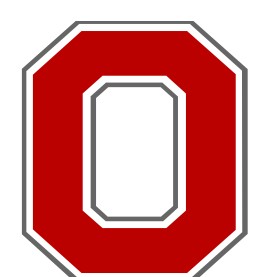


Study Design and Methods

A retrospective review of Labor and Delivery patients presenting over a 60-day period in 2025-2026 identified 12 cases of syphilis confirmed by both reactive treponemal testing (Syphilis IgG/IgM antibodies) and a nontreponemal test (RPR). Patient demographics and pertinent clinical characteristics were abstracted for analysis.

Limitations of data:

- Short-term follow-up is limited, and cases reflect a 60-day window in 2025-2026.
- Treatment status was determined from Ohio Department of Health records and patient self-report.



Results

Cohort: 12 parturients with positive *T. pallidum* IgG/IgM over 60 days

Prenatal care: 9/12 (75.0%); 3/12 (25.0%) none

Treatment: 12/12 (100%) received partial or complete syphilis therapy

Anesthetic management: Neuraxial attempted in 8/12 (66.7%); General anesthesia in 2 cases (active infection; suspected aortitis); 2 vaginal deliveries without epidural

Comorbidities: Substance use in 6/12 (50.0%); HCV antibody positive in 4/12 (33.3%)

Follow-up & Treatment: Postpartum follow-up completed in 5/12 (41.7%); Additional postpartum penicillin in 3/12 (25.0%)

Outcomes: No neurologic or infectious complications after neuraxial anesthesia (up to 4 months follow-up)

Mean age ± SD:	31 ± 4 years
Gestational age at delivery (weeks, mean ± SD):	37 weeks 6 days ± 4 weeks 5 days
Preterm delivery (< 37w):	4/12 (33.3%)
Mode of delivery:	
Vaginal delivery (%):	8/12 (66.6%)
Cesarean delivery (%):	4/12 (33.3%)
RPR reactive on admission:	10/12 (83.3%)
Median RPR titer (IQR):	1:4 (1:2 – 1:8)
Treatment prior to delivery (%):	12/12 (100%)
Anesthetic management:	
Neuraxial anesthesia:	8/12 (66.7%)
Epidural labor analgesia:	7/12 (58.3%)
Spinal or CSE for cesarean:	2/12 (16.7%)
General anesthesia:	3/12 (25%)
Conversion from neuraxial to GA:	1/12 (8.3%)
Natural childbirth:	2/12 (16.7%)

Maternal Characteristics:	
Neurosyphilis:	0
Pre-natal care received:	9/12 (75%)
Hypertensive disorders of pregnancy:	3/12 (25%)
Gestational diabetes:	1/12 (8.3%)
Antepartum anemia (<11g/dL):	7/12 (58.3%)
Substance use disorder:	6/12 (50%)
Human Immunodeficiency Virus co-infection:	0
Hepatitis C virus antibody positive:	4/12 (33.3%)
Outcomes:	
Postpartum visit completed (%):	5/12 (41.7%)
RPR re-testing performed (%):	1/12 (8.3%)
Postpartum penicillin treatment (%):	3/12 (25%)



Conclusion and Discussion

Neuraxial anesthesia commonly performed; no short-term neurologic or infectious complications.

Contraindications to Neuraxial Anesthesia:

- Local infection at needle insertion site
- Spinal syphilitic gumma (intramedullary, intradural, extradural)
- Sepsis or concern for systemic infection (excluding Jarisch-Herxheimer reaction)
- Active neurologic involvement (e.g., tabes dorsalis, meningitis, stroke, acute deficits)

Not a Contraindication to Neuraxial Anesthesia:

- CSF involvement occurs early via hematogenous spread; neuraxial “seeding” is unlikely
- In absence of sepsis, syphilis alone should not preclude neuraxial analgesia; one dose benzathine penicillin G is reasonable before completion of therapy
- RPR titers may be unreliable in pregnancy; avoid single-value decision-making and consider ID consultation