

A Rose by Any Other Name: A rare case of *Gardnerella meningitis*

Talya F. Mandelkern, MD
University of Pittsburgh Medical Center
Children's Hospital of Pittsburgh

Case Presentation

A 75-year-old man with history of diabetes, hyperlipidemia, and hypertension presented to the emergency department (ED) with 1 day of confusion.

He woke with subjective fever, chills, nausea, and headache. He later developed weakness requiring assistance with ambulation, agitation and confusion.

His baseline is total independence. History includes recent domestic travel without caving or swimming. No recent procedural interventions. He has not been sexually active in years.

HR 104 BP 130/78 T 38.9C Sat 98% RA

Oriented to self only, unable to follow commands, restless and moving frequently in bed, answering questions with nonsensical answers. Remainder of exam unremarkable.

139	102	20	183
4.6	23	1.0	

15.3	17.6	187
44.5		

A lumbar puncture and MRI brain were unable to be completed in the ED. CT head, neck, abdomen, pelvis were unremarkable. Urinalysis and culture had no bacterial growth.

Neut.	89
Lymphs	8
Mono.	3
Eos.	0
Baso.	0

Invasive *Gardnerella Vaginitis* infections to the central nervous system are rare and likely underrecognized – particularly in men and those without significant risk factors.

Hospital Course

Empiric antibiotics (ampicillin, piperacillin-tazobactam, acyclovir) were initiated.

LP completed 10 hours after antibiotics:

WBC	980 (77% PMNs)	Negative viral panel
RBC	130	
Glucose	61 mmol/L	
Protein	238g/L	

³/₄ Blood cultures grew gram-positive rods speciated to *Gardnerella Vaginalis*. CSF cultures remained negative. MRI brain/spine had no abscess or abnormality.

His presumed diagnosis was *Gardnerella meningitis* given pleocytosis, positive blood cultures, and improvement on narrowed metronidazole and ceftriaxone.

Significance

GVaginalis is a facultative anaerobic gram-variable organism localized primarily to the female genitourinary tract. It infrequently causes invasive infection in neonates and those immunocompromised or following genitourinary intervention.

15 reported cases of invasive *GVaginalis* in males exist with. Only 4 cases with CNS disease have ever been recorded.

The production of lytic enzymes, pore forming toxins, and biofilms, may contribute to its pathogenesis.

Ref: P Bhatia, et al., Not Your Garden-Variety Bacteremia: *Gardnerella* in an Immunocompromised Man, *Clinical Infectious Diseases*, Vol 66, Iss 9, 1 May 2018, P1458–1459; CM Akamine, et al., *Gardnerella vaginalis* Bacteremia in Male Patients: A Case Series and Review of the Literature, *Open Forum Infectious Diseases*, Vol 9, Iss 10, Oct 2022; H Lu, et al. *Gardnerella vaginalis* purulent meningitis in an adolescent male: a case report. *BMC Neurol* 22, 2022