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Nocardia beijingensis: A Rare and Unusual Cause of Intracranial Abscess

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Nocardia beijingensis: A Rare and Unusual Cause of Intracranial Abscess



Oak Hill Hospital

TOGETHER, PERFORMING AT A HIGHER STANDARD®

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Introduction

- Nocardia species are thin, aerobic, filamentous, gram-positive bacilli that are ubiquitous in soil worldwide.
- Nocardia infections are divided into three main categories: pulmonary nocardiosis, disseminated nocardiosis, and cutaneous nocardiosis.
- We present a case of cerebral nocardiosis in an immunocompetent patient caused by *Nocardia beijingensis* (NB).

Case

- A 60-year-old Caucasian lady with type 2 diabetes mellitus, hypertension, hyperlipidemia, presented to the emergency room with complaints of altered mentation.
- Per husband, she was having episodes of emesis and diarrhea three days prior to admission that resolved however, her mentation significantly deteriorated to where she was unable to perform simple chores around the house. Pertinently she had resection of lung mass two months prior to admission which found to be benign.
- Vital sign at admission were stable and on examination, the patient was alert and oriented however lethargic appearing.
- Neurological examination was pertinent for expressive aphasia however cranial nerves II-XII were grossly intact. The patient was also found to have a 3cm by 4cm, tender, cystic lesion on the left-sided occipital scalp.
- The remainder of the physical examination was unremarkable.

Imaging

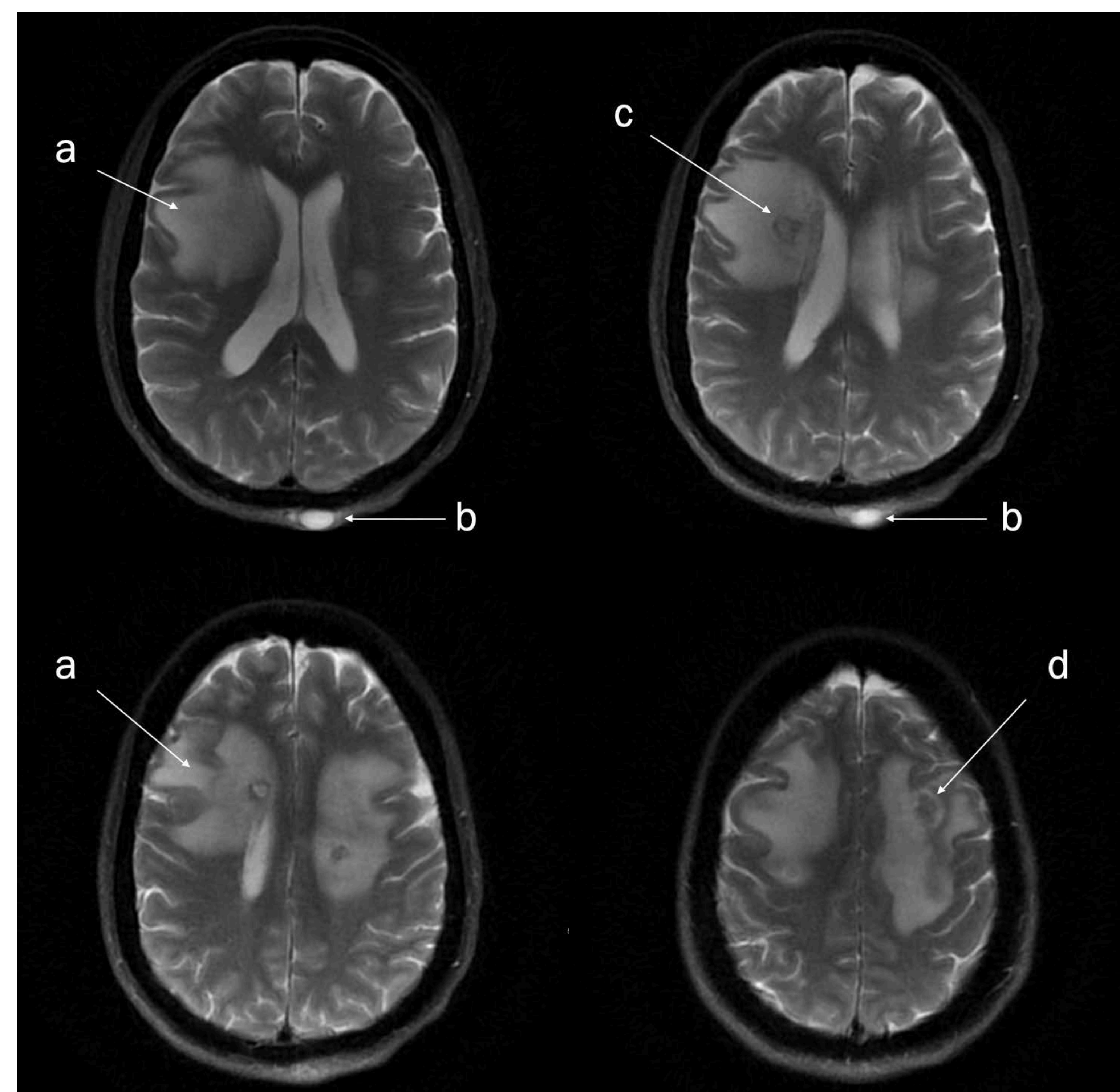


Figure 1. MRI Brain with and without contrast with T2 view. Multiple areas of vasogenic edema and nodule of 1.8cm suggestive of abscess formation. **a.** vasogenic edema, **b.** occipital lesion **c.** one of multiple abscess formation, **d.** 1.8 cm abscess

Case (Continued)

- Admission labs were remarkable for leukocytosis and hyperglycemia.
- MRI of the brain was completed that showed multiple areas of vasogenic edema and multiple nodules with the largest being 1.8cm suggestive of abscesses. She was started empirically on vancomycin, ceftriaxone, metronidazole, and ampicillin.
- Cerebral spinal fluid showed neutrophilic pleocytosis, low glucose, and high protein. Initial cultures including CSF were negative.
- Left-sided occipital scalp lesion was excised and sent for pathology and culture.
- Initial cultures showed gram-positive bacilli, so antibiotics were de-escalated to sulfamethoxazole/trimethoprim and ceftriaxone. Repeat imaging showed improving abscess, and final cultures resulted in NB.

Discussion

- NB is believed to have originated in Southeast Asia. NB has been associated mainly with infections in immunocompromised.
- In the United States the only 2 other cases of NB described in immunocompetent hosts, interestingly were from Florida as well.

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