

# A very unusual organism causing stroke-like symptoms

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## Abstract

A 78-year-old man presented to hospital with new onset confusion and fever. The working diagnosis was of delirium due to an infection of unknown source, and empirical i.v. antibiotic treatment was given. Two days later, he deteriorated and developed clinical features in keeping with a total anterior circulation stroke. Brain imaging was unremarkable. Blood cultures grew an organism subsequently identified as *Facklamia languida*. Following treatment with broad-spectrum antibiotics, his condition improved. A diagnosis of *F. languida* septicaemia, leading to presumed (unwitnessed) seizure and Todd's paresis was made. The patient went on to make a full recovery and was discharged home. Stroke mimics are common and may be eminently treatable. Around a quarter of patients initially suspected to have a stroke are subsequently found to have an alternative diagnosis.

**Keywords:** stroke, stroke mimic, *Facklamia*, seizure, septicaemia, older people

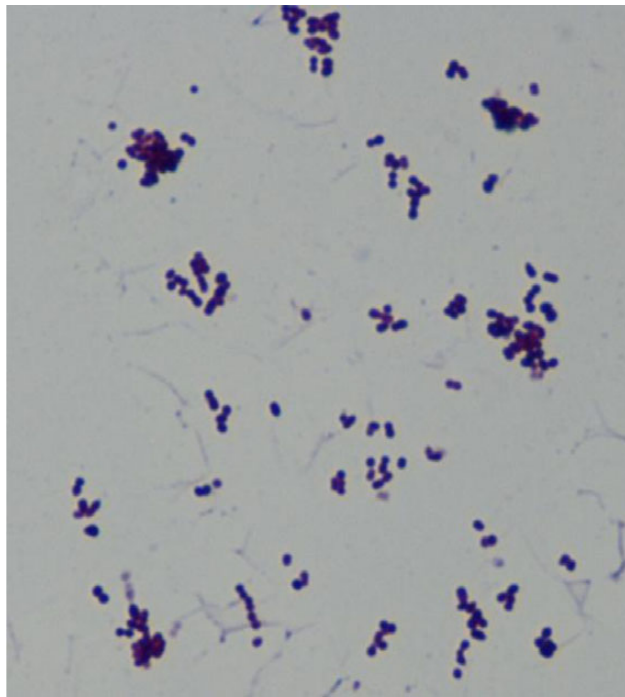
## Case report

A 78-year-old man with a history of type 2 diabetes mellitus presented to hospital with new onset confusion and fever. He was pyrexial (38.2°C), but examination was otherwise unremarkable. Blood glucose was 13.7 mmol/l, chest X-ray was normal and urinalysis was negative. Lactate was 1.8 mmol/l. The working diagnosis was of delirium due to an infection (source unknown). CT head showed likely incidental mucosal thickening of both maxillary antra. Empirical treatment with i.v. amoxicillin and gentamicin was commenced. Two days later, he was found to be globally aphasic with a homonymous hemianopia and dense right hemiparesis. He remained pyrexial despite antibiotic treatment. CT head remained unchanged.

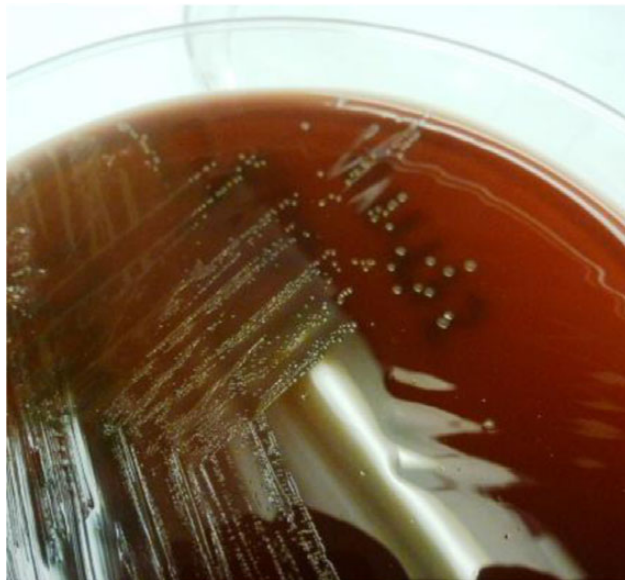
Intravenous acyclovir and broad-spectrum antibiotics (ceftriaxone, vancomycin and metronidazole) were commenced. Lumbar puncture revealed an unremarkable CSF profile with the exception of a minimally raised protein (0.58 g/l). PCR testing was negative for enteroviruses, *Herpes simplex* and *Varicella zoster*. CSF bacterial culture was

negative. Anticonvulsants were administered to cover for the possibility of subclinical status epilepticus.

Within 48 h his condition had significantly improved; he was moving his right side, had no evidence of visual field defect, and was able to speak. CT angiogram of intracranial vessels showed no evidence of cerebral vasculitis and a transthoracic echocardiogram was normal. MRI brain with diffusion-weighted imaging showed no stroke or other intracranial pathology. An organism was isolated from the anaerobic bottle of a set of blood cultures after 24 h incubation using the Vitek 2<sup>®</sup> (*Biomérieux*) automated analyser. Gram-positive cocci forming clusters and chains were seen on a microscopy. (Figure 1) The aerobic bottle remained negative. The organism grew slowly on Columbia agar with horse blood and chocolate agar plates. Small grey colonies which were catalase and oxidase negative were visible (Figure 2). 16rRNA ribotyping by the Health Protection England Antimicrobial Resistance and Healthcare Associated Infections Reference Unit identified it as *Facklamia languida*. *F. languida* is the only *Facklamia* spp which forms clusters supporting the identification [1]. A diagnosis of *F. languida* septicaemia, leading to presumed (unwitnessed) seizure



**Figure 1.** Gram stain of *F. languida* showing characteristic growth of Gram-positive cocci in clumps and chains<sup>a</sup>.



**Figure 2.** Colonies of *Facklamia languida* after 4 days incubation in a CO<sub>2</sub>-enriched atmosphere on Columbia blood agar at 37°C.

and Todd's paresis, was made based on the sudden onset and recovery of severe focal neurological deficits and the negative brain imaging. However, it is possible that these deficits were purely defunctioning secondary to sepsis. The patient went on to make a full recovery and was discharged home.

*Facklamia* species are rarely reported from clinical specimens. There have been two reports in the literature of *Facklamia hominis* causing infective endocarditis [2, 3], with

one case presenting as ischaemic stroke secondary to the endocarditis [3], but there are no published descriptions of stroke-like syndromes associated specifically with *F. languida* bacteraemia. Since its discovery in 1999, the only published descriptions of clinical cases we could identify were isolates from six invasive infections all of which were from women [4]. These were of a CSF isolate from a case of meningitis, a gallbladder isolate and four bloodstream isolates. Consequently, the epidemiology and clinical associations for this organism are currently not understood and, as further cases are reported, greater understanding of the behaviour and range of disease manifestations of this extremely rare human pathogen will become clearer along with its optimal treatment.

Stroke mimics are common; about a quarter of patients initially suspected to have a stroke are subsequently found to have an alternative diagnosis. A systematic review found that of patients subsequently identified as having a stroke mimic, 19.6% had seizures and 9.6% had sepsis [5]. Many conditions, particularly in the elderly, can produce transient neurological deficits and to label them as stroke or TIA is potentially dangerous. The underlying condition may be more serious but also potentially treatable.

### Key points

- Stroke mimics are very common.
- Septicaemia may sometimes be implicated in stroke mimics.
- There are no previously published reports of stroke-like syndromes associated with *Facklamia languida* bacteraemia.

### References

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