

CLINICAL VIGNETTE

A Rare Case of Parvimonas Micra Bacteremia

Stephen C. Ross, MD

Parvimonas micra is a gram positive anaerobic bacteria that is found in patients with chronic periodontal disease. It is often associated with mixed anaerobic infections in abdominal abscesses. It has been reported rarely as a sole pathogen in septic arthritis, osteomyelitis and discitis associated with dental procedures. The following case illustrates *P. micra* as a cause of bacteremia.

Case

A 72-year-old man with hypertension developed abdominal pain, night sweats, chills and low-grade fever (99F). He had two weeks of symptoms before presenting for evaluation. Pertinent physical findings were left sided abdominal tenderness without organomegaly. Labs showed a white count of 19,840 with elevated neutrophils and elevated ESR of 37. He had borderline elevated alkaline phosphatase and ALT and a normal urinalysis. He was diagnosed with probable gastroenteritis and started on levofloxacin for 10 days. After 7 days he returned and stated that his symptoms were better with decreased abdominal pain, night sweats and chills. He continued to have a decrease appetite. Follow up labs showed white blood cell count had decreased to 13,830. His alkaline phosphatase increased to 243 and ALT increased to 79. His ESR decreased to 33 but procalcitonin was high at 173. CT scan of the abdomen and pelvis identified new multifocal intrahepatic portal venous thrombosis. Hematology and infectious disease concluded his portal vein thrombosis was suspicious for antiphospholipid syndrome with elevated B2 glycoprotein IGM (greater than 150). After completion of a course of oral levofloxacin, his fever increased to 102.5 and he was admitted and started on imperic piperacillin/tazobactam. Several blood cultures were positive for *Parvimonas Micra* bacteria. His fever resolved on parenteral antibiotics and he was discharged on a 2-week course of ciprofloxacin 500 mg twice per day and metronidazole 500 mg three times daily. The patient completely recovered from *P. Micra* bacteremia. He is still being followed for intrahepatic portal venous thrombosis and antiphospholipid syndrome.

Discussion

This patient represents an unusual presentation of *P. Micra* bacteremia. After the diagnosis was established, the patient acknowledged aggressive dental hygiene with deep brushing of his gums and teeth. This may have been the source of his bacteremia.

There are many reports of *P. Micra* bacteria causing bacteremia in immune suppressed patients and in patients with underlying cancers. A patient with esophageal cancer and *P. Micra* bacteria was published in 2016.¹ In 2017, a patient with head and neck cancer and oral mucositis was reported.² These cases identified either oral trauma or oral mucosal disease that led to release of the *Parvimonas* bacteria into the bloodstream.

Besides cancer other underlying medical conditions can lead to *P. Micra* bacteremia. A 42 year old man with a mitral valve replacement developed *P. Micra* bacteria after a dental extract with appropriate prophylactic antibiotics.³ In 2018, a case of delayed *P. Micra* bacteremia following ERCP for choledocholithiasis was reported.⁴

My patient had *P. micra* bacteremia without any underlying malignancy, valvular heart disease or immunocompromised condition. The presumptive cause for his septicemia was vigorous teeth cleaning. This is the first report of such a cause.

This patient also developed portal vein thrombosis. Although it was not clear if this was related to his *P. micra* septicemia, the literature suggests a correlation. A 2016 case reported *P. Micra* bacteremia in a 62 year old male with cholecystitis complicated by pyelophlebitis.⁵ In 2019 an 85 year old male with *P. Micra* bacteremia with severe periodontal disease was complicated by septic pulmonary emboli.⁶ My patient's portal vein thrombosis may have contributed to his *P. micra* bacteremia.

Summary

This 72-year-old man with *Parvimonas micra* bacteremia was successfully treated with ciprofloxacin and metronidazole. He was unique in that he no other significant chronic underlying medical conditions, but had portal vein thrombosis which may be associated with *P. micra* bacteremia.

REFERENCES

1. **García Carretero R, Luna-Heredia E, Olid-Velilla M, Vazquez-Gomez O.** Bacteraemia due to *Parvimonas micra*, a commensal pathogen, in a patient with an oesophageal tumour. *BMJ Case Rep.* 2016 Nov 18;2016. pii: bcr2016217740. doi: 10.1136/bcr-2016-217740. PubMed PMID: 27864301; PubMed Central PMCID: PMC5129023.

2. **Tonnara G, Colloca GF, Valentini V.** Parvimonas micra bloodstream infection in a patient with oral mucositis. *Res Rep Med Sci.* 2017;1:102.
3. **Ho D, Ang G, Er C, Yap SF, Meyyur Aravamudan V.** An Unusual Presentation of Parvimonas micra Infective Endocarditis. *Cureus.* 2018 Oct 13;10(10):e3447. doi: 10.7759/cureus.3447. PubMed PMID: 30555762; PubMed Central PMCID: PMC6294278.
4. **Boattini M, Bianco G, Cavallo R, Costa C.** Parvimonas micra bacteremia following endoscopic retrograde cholangiopancreatography: A new route of infection. *Anaerobe.* 2018 Dec;54:136-139. doi: 10.1016/j.anaerobe.2018.09.003. Epub 2018 Sep 11. PubMed PMID: 30217496.
5. **Shinha T, Caine V.** Pylephlebitis due to *Parvionas micra*. *Infectious Diseases in Clinical Practice.* 2016;24(1):54-56.
6. **Watanabe T, Yokoe M, Noguchi Y.** Septic pulmonary embolism associated with periodontal disease: a case report and literature review. *BMC Infect Dis.* 2019 Jan 21;19(1):74. doi: 10.1186/s12879-019-3710-3. Review. PubMed PMID: 30665352; PubMed Central PMCID: PMC6341628.