

CLINICAL VIGNETTE

Streptococcus sanguinis Bacteremia as a Sign of Colon Cancer

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Case Summary

A 74-year-old male presented to the ER with severe back pain and subsequently was admitted with septic shock. Past medical history includes Aortic stenosis, s/p AVR, atrial flutter, heart failure with reduced ejection fraction (HFrEF) with EF 50-55%, carotid artery disease, hypertension, CVA and Pulmonary embolism on anticoagulation.

His symptoms started 1 week prior when he noted back pain while taking out the trash as well as fever and chills. He was confined to bed for several days with pain, decreased urine output and decreased oral intake. In the ER, CT scan showed left psoas myositis and abscess, possibly extending from a spine infection and concern for osteomyelitis. The CT also showed a 5 x 13cm perinephric fluid collection.

He was initially admitted and started on IVF and antibiotics. He remained hypotensive and was transferred to the ICU for septic shock. Blood cultures initially grew gram positive clusters in pairs and chains, raising concern for endocarditis, given his bioprosthetic AVR and multiple potential sites of infection. Final blood cultures identified *Streptococcus sanguinis*.

Additional testing was ordered to investigate the source of his bacteremia. Interventional Radiology drained the fluid collection and determined it was a urinoma with negative cultures. Transesophageal echocardiogram was negative for endocarditis. A tagged WBC scan was also negative. Repeat CT-KUB showed resolution of the perinephric fluid collection.

Additional testing included outpatient spine MRI to rule out osteomyelitis. The patient clinically improved and his leukocytosis resolved. A PICC line was placed, and he was discharged to a skilled nursing facility for extended antibiotic treatment with outpatient follow up with infectious disease. His apixaban was resumed upon discharge.

One day after discharge, he was sent back to the ER due to passage of dark maroon stool with concern for GI bleeding. His Hgb on presentation was 8.5, decreased from 10.2. Labs were also notable for low iron saturation of 9%. The patient did not have prior colonoscopy. Overnight, he developed melena with Hgb decrease to 8.0.

EGD and colonoscopy were performed and noted an ulcerated colonic mass in the ascending colon which was biopsied (Figures 1 and 2). Pathology confirmed moderately differ-

entiated adenocarcinoma. Subsequent staging CT scans did not identify metastatic disease. He underwent successful right hemicolectomy. Pathology confirmed T3N0 invasive, moderately differentiated adenocarcinoma.

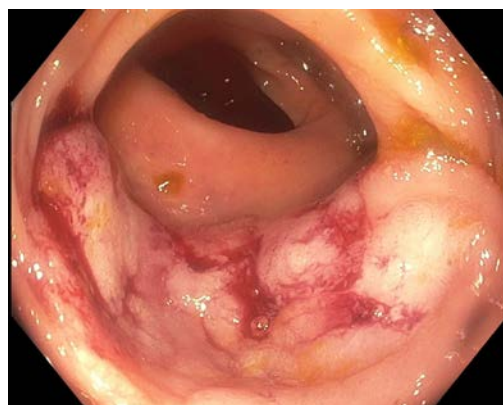


Figure 1-right colon mass

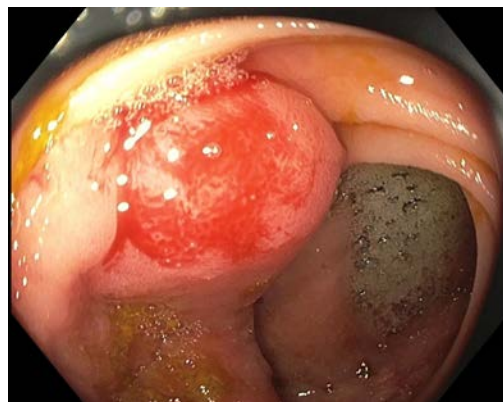


Figure 2- right colon mass

Discussion

Streptococcus sanguinis, a member of the viridans streptococcus group, is a commensal bacterium found in the oral cavity. It is a normal inhabitant of the healthy human mouth commonly found in dental plaque. It is a gram-positive, non spore-forming, facultative anaerobe. Like other streptococci, cell division of *S. sanguinis* results in chains or pairs of cocci.¹ It can become pathogenic under certain conditions, including severe periodontal disease or during dental treatment. This bacterium can cause infective endocarditis, especially in patients with under-

lying cardiac disease or compromised immune systems.² Most cases of endocarditis are caused by *Staphylococcus aureus*, viridans streptococci, enterococci, coag-negative staphylococci, *S. bovis/S. equinus complex* and other streptococci.

There is a well-described association between *S. bovis* bacteremia and underlying colonic neoplasia.^{3,4} The reasons for this association are not fully understood but may be due to translocation of the bacteria via an ulcerated colonic lesion or a carcinogenic effect of the bacterium itself.⁵ Many physicians are aware that patients with *Streptococcus bovis/Streptococcus equinus complex* bacteremia, should have colonoscopy to rule out an underlying malignancy.

However, many are not aware that other streptococcal species are associated with colon and rectal cancers. The association with *S. bovis* bacteremia and underlying colonic neoplasm is well established. However, the association between colon cancer and *Streptococcus sanguinis* bacteremia is less clear. Several case reports have reported the association.⁵⁻¹⁰ Two of the reported cases included patients with infective endocarditis. The interval between the bacteremia and identification of the colonic malignancy ranged from days to months. The published reports suggest an increased incidence in patients aged 60.

Conclusion

Patients with *Streptococcus sanguinis* bacteremia, should be considered for evaluation to exclude underlying colonic malignancy.

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