CASE REPORT

**Streptococcus anginosus pyogenic liver abscess following a screening colonoscopy**


A previously healthy 58-year-old man presented with a septic thrombosis of the right hepatic vein and a pyogenic liver abscess (PLA) one week after undergoing a screening colonoscopy. Blood cultures and a radiological drainage specimen were both positive for *Streptococcus anginosus*. Evolution was favorable after six weeks of antibiotic therapy. To the authors’ knowledge, the present report is the first to describe a PLA following a screening colonoscopy with no intervention. The authors hypothesize that silent microperforations during colonoscopy contributed to the infection. Although 20% to 40% of reported PLA cases are cryptogenic in the literature, it may be because of failure to recognize and report a precipitating factor such as colonoscopy. As more cases similar to the present case are reported, the number of cryptogenic cases may decrease.

**Key Words:** Abscess; Colonoscopy; Pyogenic liver; Streptococcus anginosus; *Streptococcus milleri* group

**Pyogenic liver abscess (PLA)** is a serious clinical entity with a high potential for mortality and morbidity (1-3). Prognosis has improved in recent years with technological advances, enabling early diagnosis as well as less invasive and more effective treatment (4). Clinicians, however, must maintain a high level of suspicion because of its nonspecific presentation.

*Streptococcus anginosus*, a species belonging to the *S milleri* group, is frequently responsible for PLA (5). Intra-abdominal infections, such as diverticulitis, can occasionally cause PLA through drainage via the portal vein of an infected area (6). On the other hand, very few cases have been described following a colonoscopy (7-9).

We report a case involving a patient who presented with fever and right costal pain one week after undergoing a screening colonoscopy, who was ultimately diagnosed with *S anginosus* PLA and a septic thrombosis of the right hepatic vein.

**CASE PRESENTATION**

A previously healthy 58-year-old man presented with a four-day history of fever, chills and right subcostal pleuritic pain. One week before admission, the patient underwent a screening colonoscopy. It was performed without complications, although the patient complained of significant abdominal discomfort that was self-limiting after the procedure. The endoscopy revealed sigmoid diverticulosis and no further biliary pathology. Findings were further characterized with an abdominal computed tomography scan (Figure 1A), which confirmed a right hepatic lobe collection with thrombosis of the right hepatic vein (Figure 1B). There was no evidence of intraluminal perforation.

The patient was treated with piperacillin-tazobactam and radiological drainage with placement of an indwelling catheter. Two sets of blood cultures were positive for *S anginosus*; the same germ grew from the radiological drainage specimen. Antibiotic therapy was subsequently changed to penicillin for a more focused antibiotic spectrum. A transthoracic echocardiogram did not reveal any vegetation and a ventilation-perfusion scan was negative for septic emboli. Follow-up scan showed resolution of the abscess after six weeks of therapy.

**DISCUSSION**

The incidence of PLA is stable, with 10 to 20 cases per 100 000 hospital admissions (1). *S anginosus*, a facultative anaerobic Gram-positive coccus found in the normal flora of the gastrointestinal tract, is one of the three species, with *Streptococcus intermedius* and *Streptococcus constellatus*, that forms the group *S milleri*. With *Escherichia coli*, this group is the most frequently isolated microorganism in contemporary PLA western series (2-4,10-15).

Early diagnosis of PLA is crucial because despite contemporary therapeutic advances, the mortality rate remains approximately 10% (2,5,11,16-18). The clinician must maintain a high level of suspicion because of its largely nonspecific clinical presentation. For example, in a recent retrospective study involving 63 patients with PLA (10), temperature, right upper quadrant pain and signs of peritonism were present in 59%, 39% and 14% of cases, respectively. The time between symptom onset and diagnosis was one week.

Biliary tract infections account for nearly one-half of cases; other seeding routes include portal and systemic bacteria, direct intraperitoneal extension and liver trauma. However, 20% to 40% of cases remain cryptogenic. Proposed etiologies to explain this are: an undetected infection; a resolved infectious process in the portal region; and a transient bacteremia (19,20).

Very few infectious complications have been reported following colonoscopy, which could be due to the difficulty in deducing the causal relationship between these events (21). However, a case report...
the right hepatic lobe, representing a pyogenic liver abscess (PLA). Septic physiology of PLA. Given the high number of endoscopies, it is important to clarify this relationship.

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CONCLUSION

The present case reminds us of the importance of imaging the liver in cases of fever and nonspecific symptoms, seeking a PLA. It also raises questions as to the possible contribution of colonoscopy in the pathophysiology of PLA. Given the high number of endoscopies, it is important to clarify this relationship.

REFERENCES
